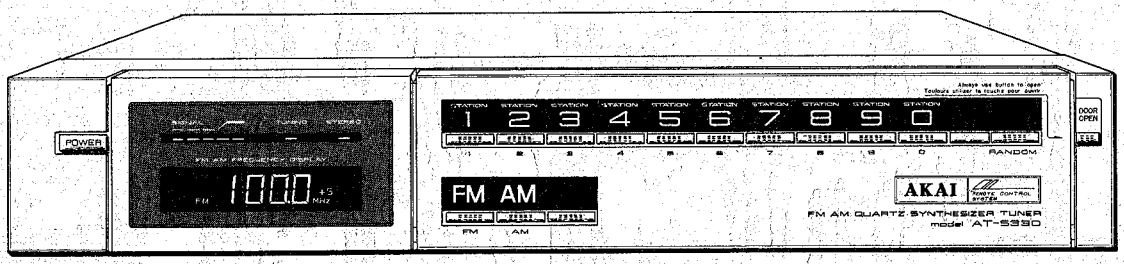
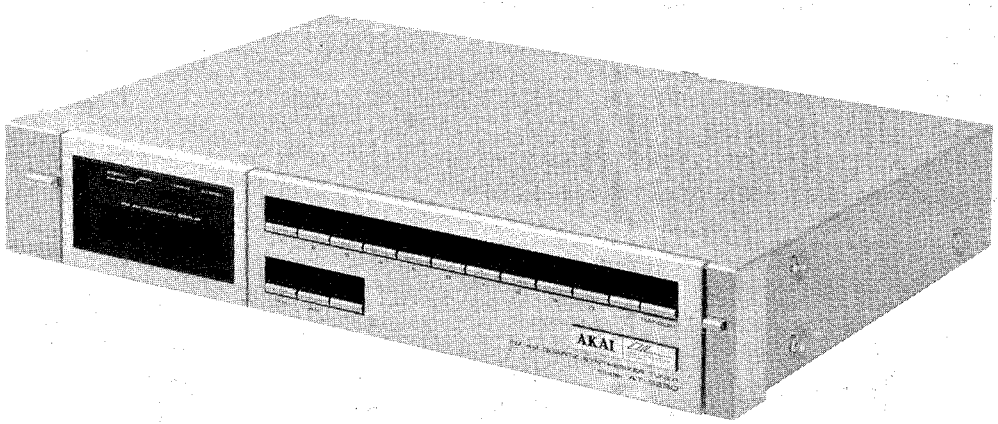
AKAI SERVICE MANUAL



FM/AM QUARTZ SYNTHESIZER TUNER

MODEL AT-S330/L



FM/AM QUARTZ SYNTHESIZER TUNER

MODEL AT-S330/L

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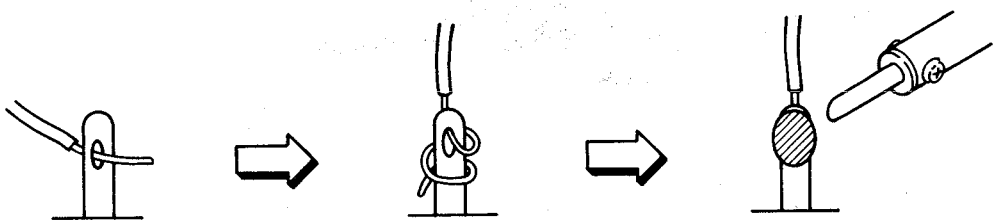
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SECTION 1

SERVICE MANUAL

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For basic adjustments, measuring methods, and operating principles, refer to GENERAL TECHNICAL MANUAL.

I. SPECIFICATIONS

FM TUNER SECTION	
TUNING,FREQUENCY RANGE	87.4 to 108.1 MHz
USABLE SENSITIVITY (300 ohms)	1.9 μV
CAPTURE RATIO	1.3 dB
SELECTIVITY (400 kHz)	65 dB
IMAGE REJECTION	80 dB
IF REJECTION	90 dB
SPURIOUS REJECTION	80 dB
AM SUPPRESSION	60 dB
SUB CARRIER SUPPRESSION	60 dB
S/N (Mono/Stereo)	73 dB/65 dB
T.H.D. (Mono/Stereo)	0.10%/0.15%
STEREO SEPARATION (1 kHz)	50 dB
MUTING LEVEL	22 dB

AM TUNER SECTION	AM (MW for AT-S330L)	LW (AT-S330L only)
TUNING FREQUENCY RANGE	530 to 1610 kHz (USA and Canada) 522 to 1611 kHz (Others)	– 137 to 362 kHz
USABLE SENSITIVITY (Bar)	300 μV/m	500 μV/m
SELECTIVITY	30 dB	30 dB
IMAGE REJECTION	45 dB	45 dB
IF REJECTION	75 dB	75 dB
S/N	50 dB	50 dB
T.H.D.	0.3%	0.3%

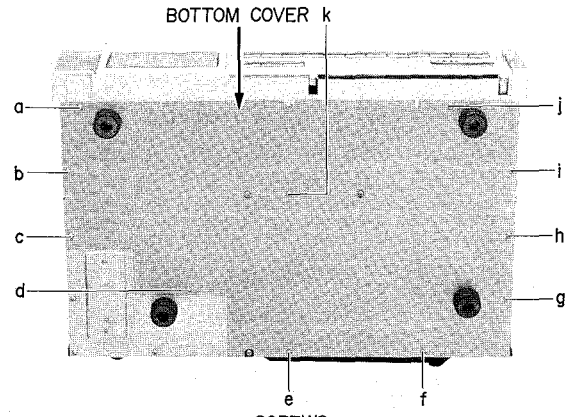
OUTPUT SECTION	
OUTPUT LEVEL FM (100% Mod.) AM (30% Mod.)	 775 mV 250 mV
POWER REQUIREMENTS	120V, 60 Hz for USA and Canada 220V, 50 Hz for Europe except UK 240V, 50 Hz for UK and Australian 110V/220V/240V, 50/60 Hz for other countries.
POWER CONSUMPTION	20W
DIMENSIONS	440 (W) × 83 (H) × 326 (D) mm (17.3 × 3.3 × 12.8 inches)
WEIGHT	5.2 kg (11.4 lbs)

*** For improvement purposes, specifications and design are subject to change without notice.**

II. DISMANTLING OF UNIT

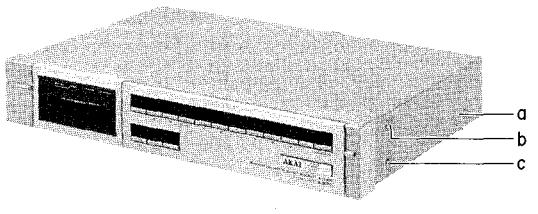
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs.
Reassemble in reverse order.

4



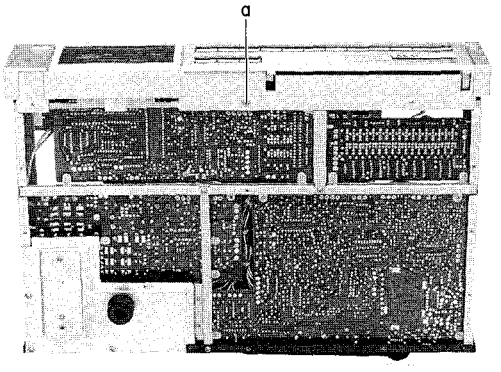
SCREWS

1



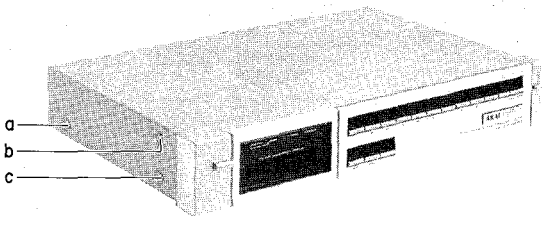
SCREWS

5



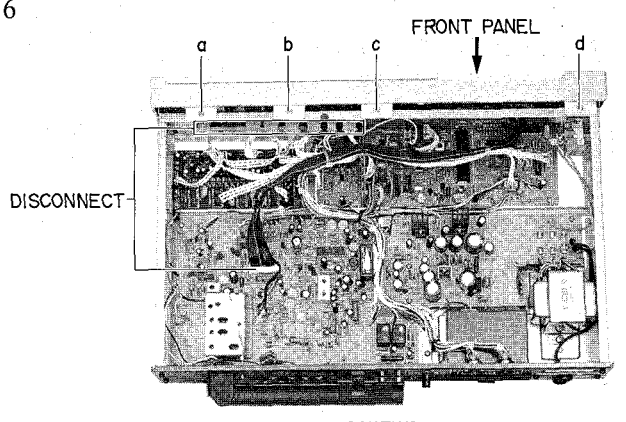
SCREW

2



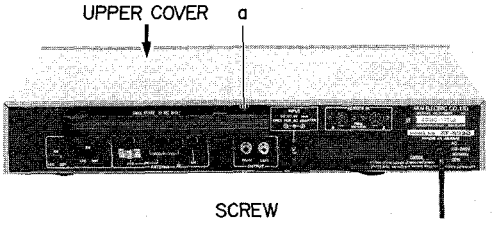
SCREWS

6



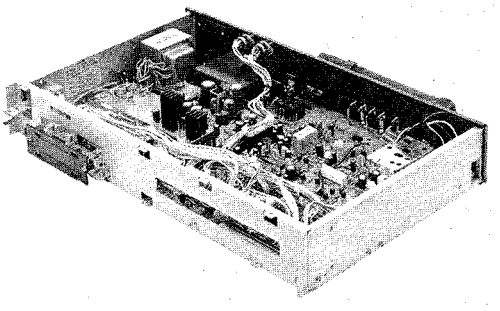
SCREWS

3



SCREW

7



III. CONTROLS

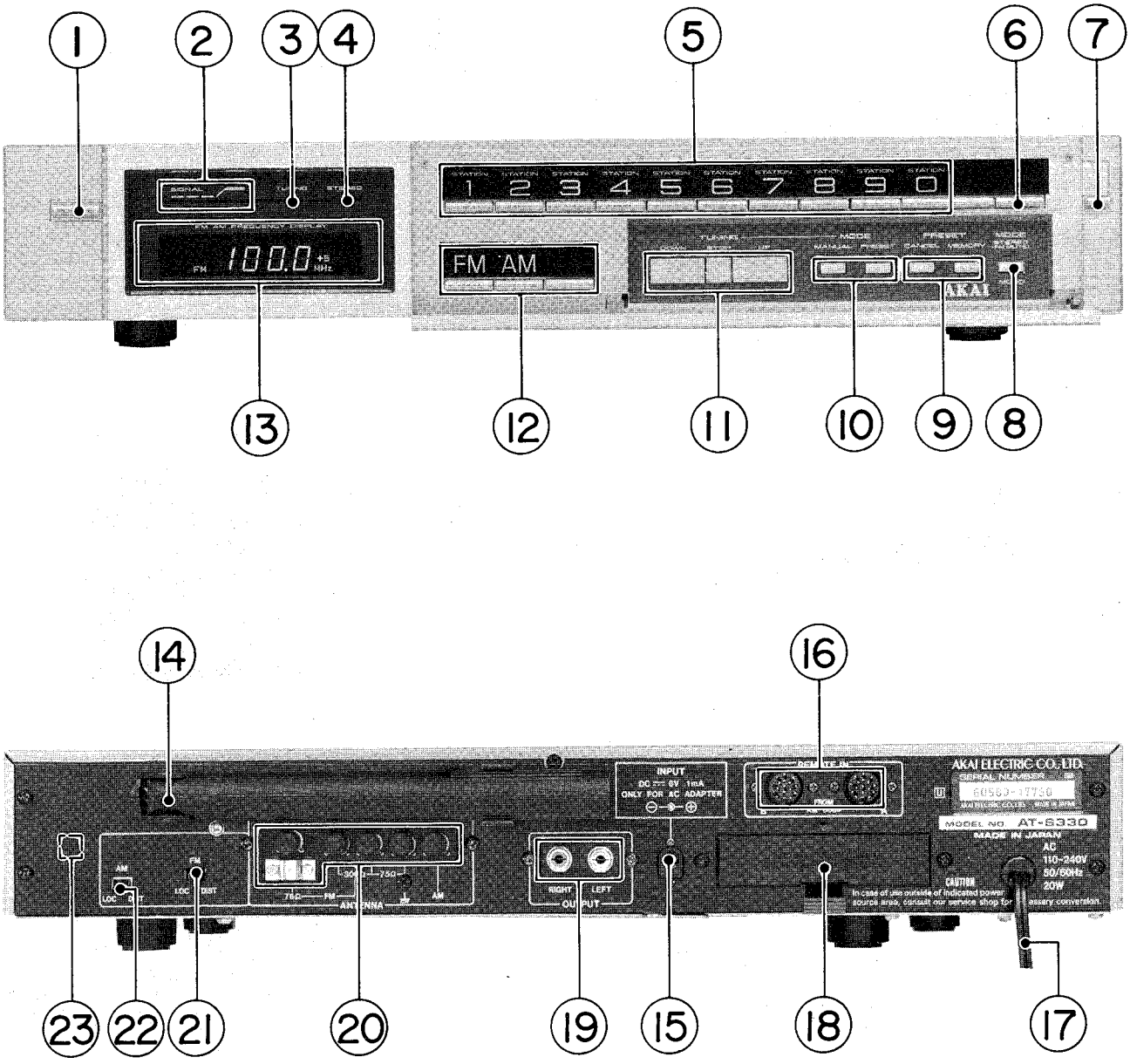


Fig. 1 Controls

1. POWER SWITCH
2. SIGNAL STRENGTH INDICATOR
3. FM TUNING INDICATOR
4. FM STEREO INDICATOR
5. PRESET STATION KEYS AND DIGITAL INDICATORS
6. RANDOM TUNING BUTTON
7. DOOR BUTTON
8. MODE SELECTOR
9. PRESET BUTTONS AND INDICATORS
10. TUNING MODE BUTTONS AND INDICATORS
11. TUNING KEYS
12. BAND BUTTONS AND INDICATORS
13. FM/AM FREQUENCY DISPLAY
14. AM FERRITE BAR ANTENNA
15. DC INPUT JACK
16. REMOTE IN JACK
17. AC CORD (AC INLET FOR SOME COUNTRY)
18. BATTERY COMPARTMENT FOR STATION MEMORY
19. OUTPUT JACKS
20. FM/AM ANTENNA TERMINALS
21. FM LOCATION SELECTOR
22. AM LOCATION SELECTOR
23. AM ANTENNA SELECTOR (AT-S330L ONLY)

IV. PRINCIPAL PARTS LOCATION

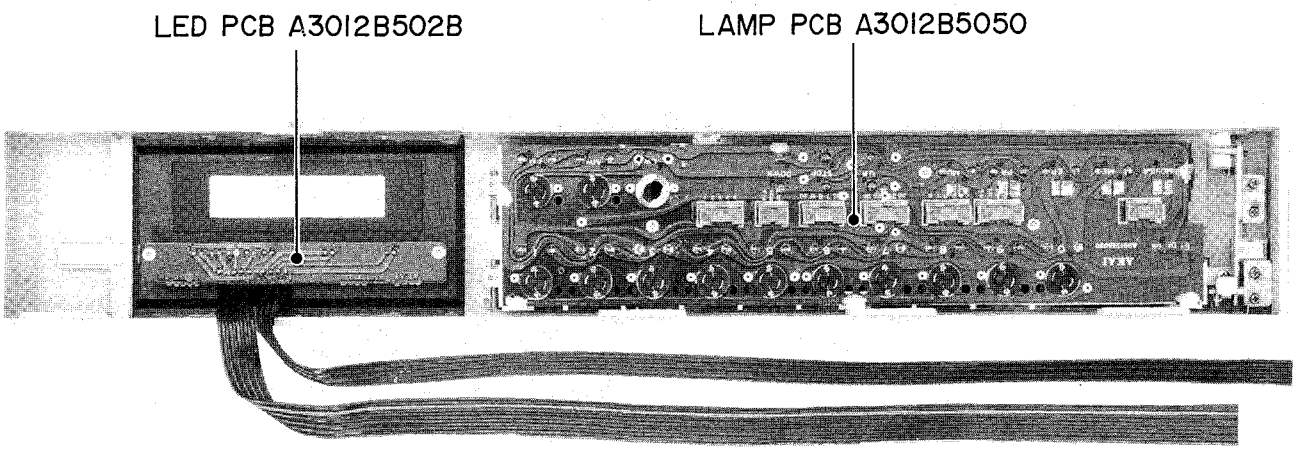


Fig. 2 Back View of Front Panel

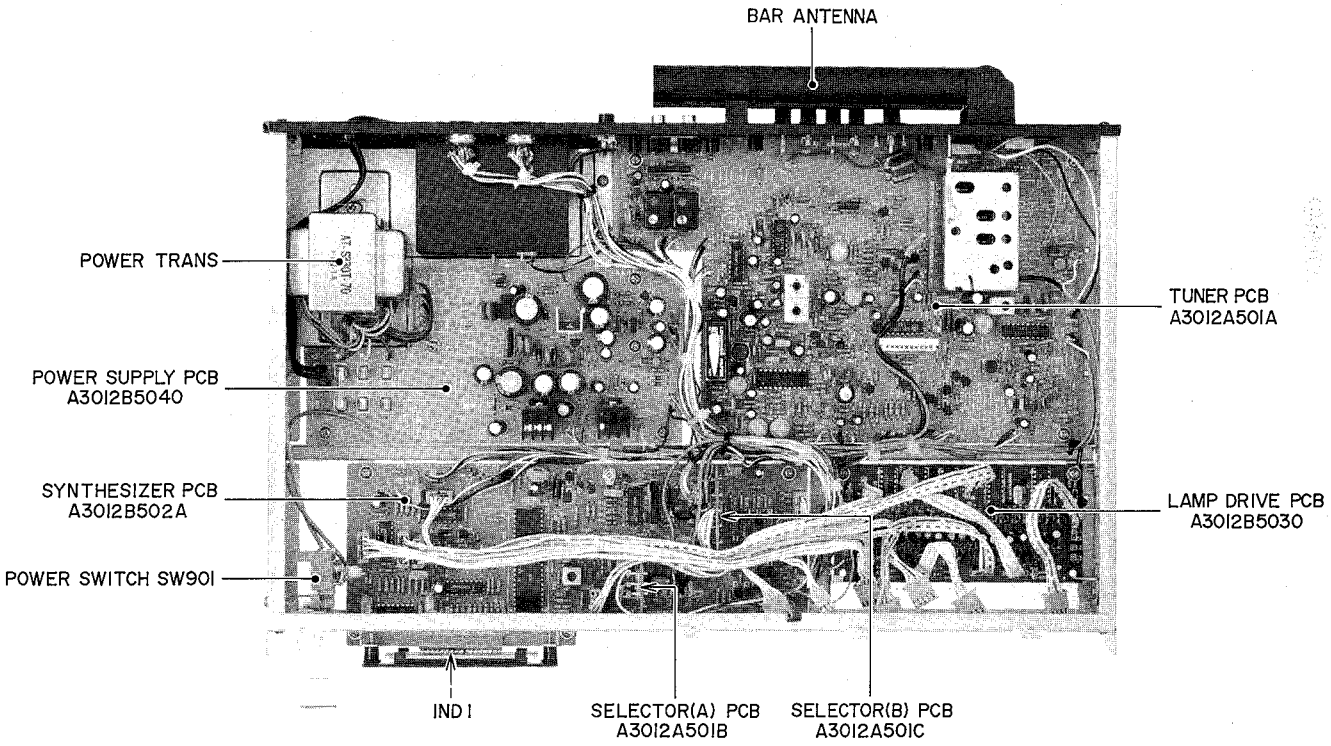


Fig. 3 Top View

V. VOLTAGE CONVERSION

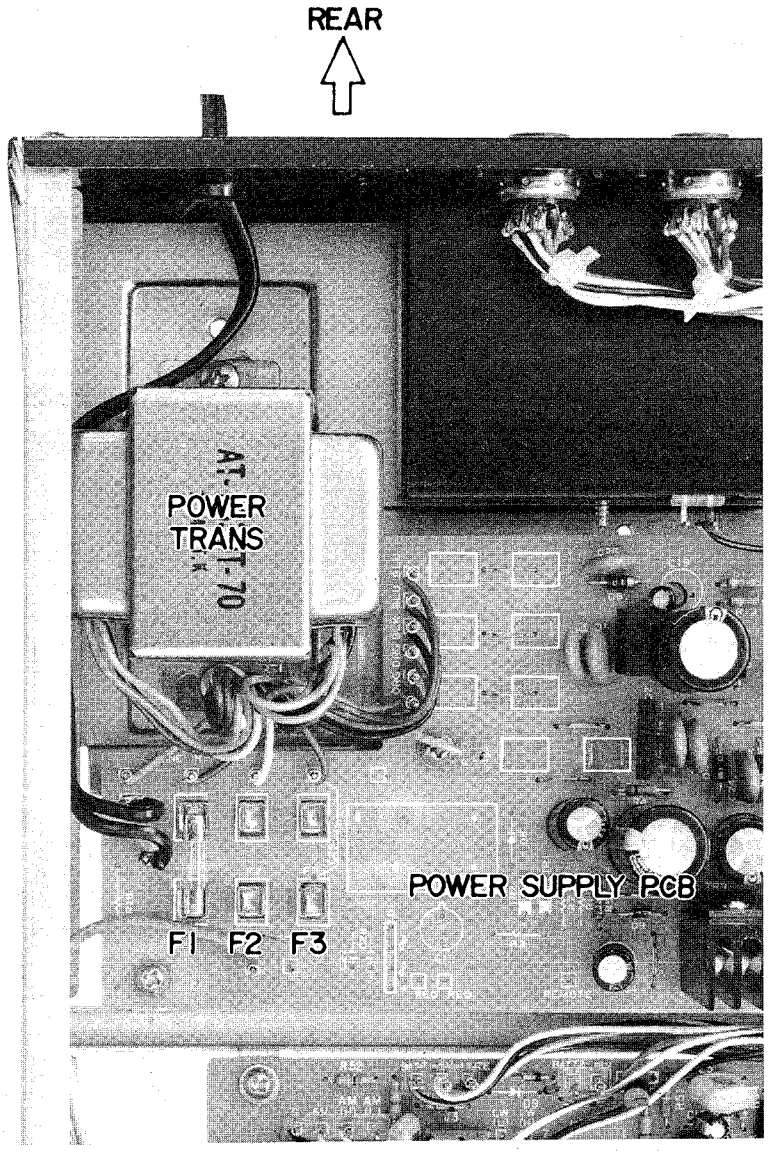


Fig. 4 Voltage Conversion (U Model Only)

Models for Canada, U.S.A, Europe, UK and Australia are not equipped with this facility.
Each machine is preset at the factory according to destination but some machines can be set to 110V, 220V or 240V as required.
If voltage change is necessary, this can be accomplished as follows.

1) Disconnect AC Power Cord.
2) Loosen holding screws and remove upper case.
3) Remove existing Line Voltage Fuse and insert required Line Voltage Fuse in proper fuse holder.

VI. OPERATION

1. FM SYNTHESIZER BLOCK DIAGRAM

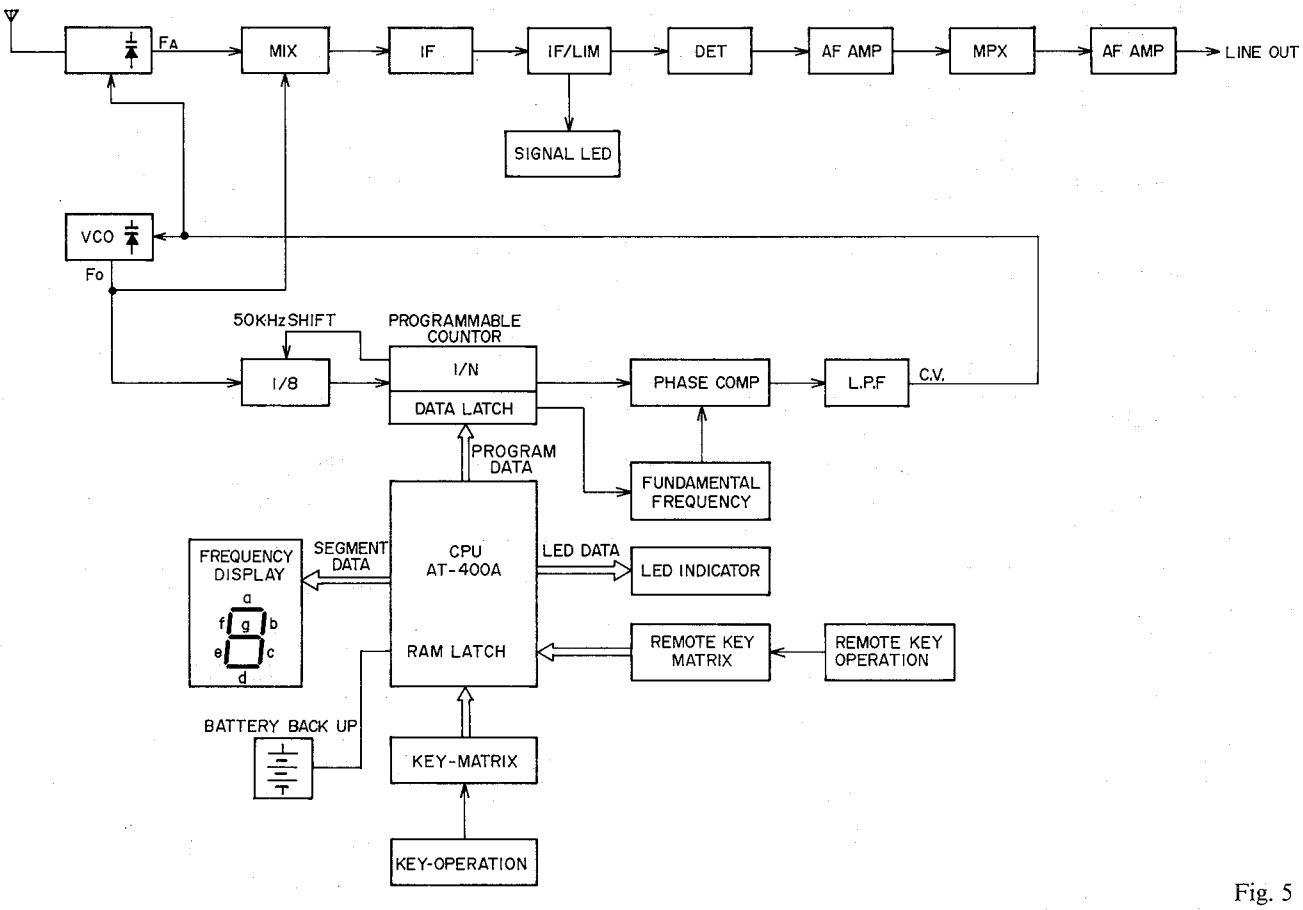


Fig. 5

2. FUNCTION OF AT400A TERMINALS

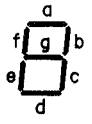
NO.	TERMINAL DESCRIPTION	FUNCTION	NO.	TERMINAL DESCRIPTION	FUNCTION
1	MUTING	H= Muting OFF L= Muting ON	22	T_1	Same as $T_2 \sim T_5$
			23	K-1	KEY Input Data H.....No input L.....Input (ACTIVE LOW)
2	CH/FREQ	H= Ch indication L= Freq. indication	24	K-2	
			25	K-3	
3	MW/LW	H= MW L= LW	26	K-4	
			27	X in	
4	FM/AM	H= FM L= AM	28	X out	
			29		
5	$\overline{LD}$-4	LED, Lamp Output Data Refer to Matrix	30	GND	
6	$\overline{LD}$-3		31	$\overline{RST}$	Reset
7	$\overline{LD}$-2		32	$\overline{INT}$	Interrupt Signal
8	$\overline{LD}$-1		33	AUTO STOP	H= AUTO STOP
9	a	LED Segment Data 	34	LOAD	H= When PLL load
10	b		35	KEY-out	Key input Gate adress H: ON SELECT
11	c				
12	d		36	KEY-IN	L: Key input
13	e		37	STEREO AUTO	H= STEREO
14	f		38	A	Freq. Data to PLL H: Data "1"
15	g		39	B	
16	l		40	C	
17	T_5	Indicator Digit Select KEY Input Gate adress LED, Lamp Gate adress	41	D	
18	T_4		42	VDD	Power terminal +5V
19	T_3				
20	T_2				
21	GND				

Fig. 6

3. KEY INPUT MATRIX

	K-4 (26)	K-3 (25)	K-2 (24)	K-1 (23)	K-IN (36)
$\overline{K\text{-out}}$ (35)	FM-U / FM-J	MW-1 10K / MW-2 9K	FM 50K / FM 100 kHz	3 BAND / 2 BAND	-
$\overline{T\text{-}1}$ (22)	POWER	FM	MW	LW	UP
$\overline{T\text{-}2}$ (20)	STEREO AUTO	MANUAL	AUTO	PRESET	DOWN
$\overline{T\text{-}3}$ (19)	CANCEL	MEMORY	10	9	STOP
$\overline{T\text{-}4}$ (18)	8	7	6	5	CHANNEL DISPLAY
$\overline{T\text{-}5}$ (17)	4	3	2	1	RANDAM TUNNING

Fig. 7

4. LED MATRIX

	LD-4 (5)	LD-3 (6)	LD-2 (7)	LD-1 (8)
$\overline{T\text{-}1}$ (22)	POWER	FM	MW	LW
$\overline{T\text{-}2}$ (20)	STEREO AUTO	MANUAL		PRE SET
$\overline{T\text{-}3}$ (19)	CANCEL	MEMORY	10	9
$\overline{T\text{-}4}$ (18)	8	7	6	5
$\overline{T\text{-}5}$ (17)	4	3	2	1

Fig. 8

VII. ELECTRICAL ADJUSTMENT

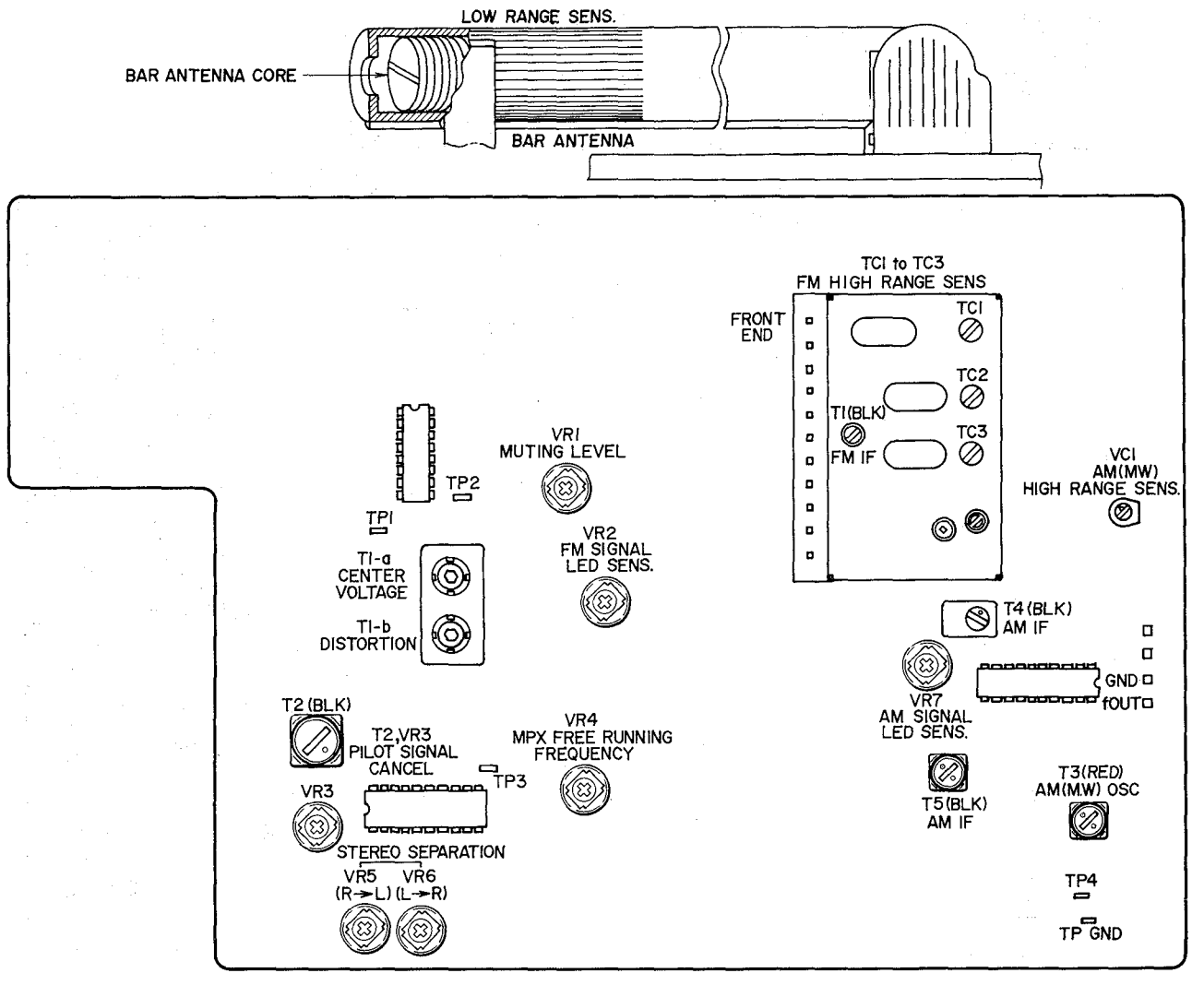


Fig. 9 Tuner P.C Board A3012A501A and Bar Antenna (AT-S330)

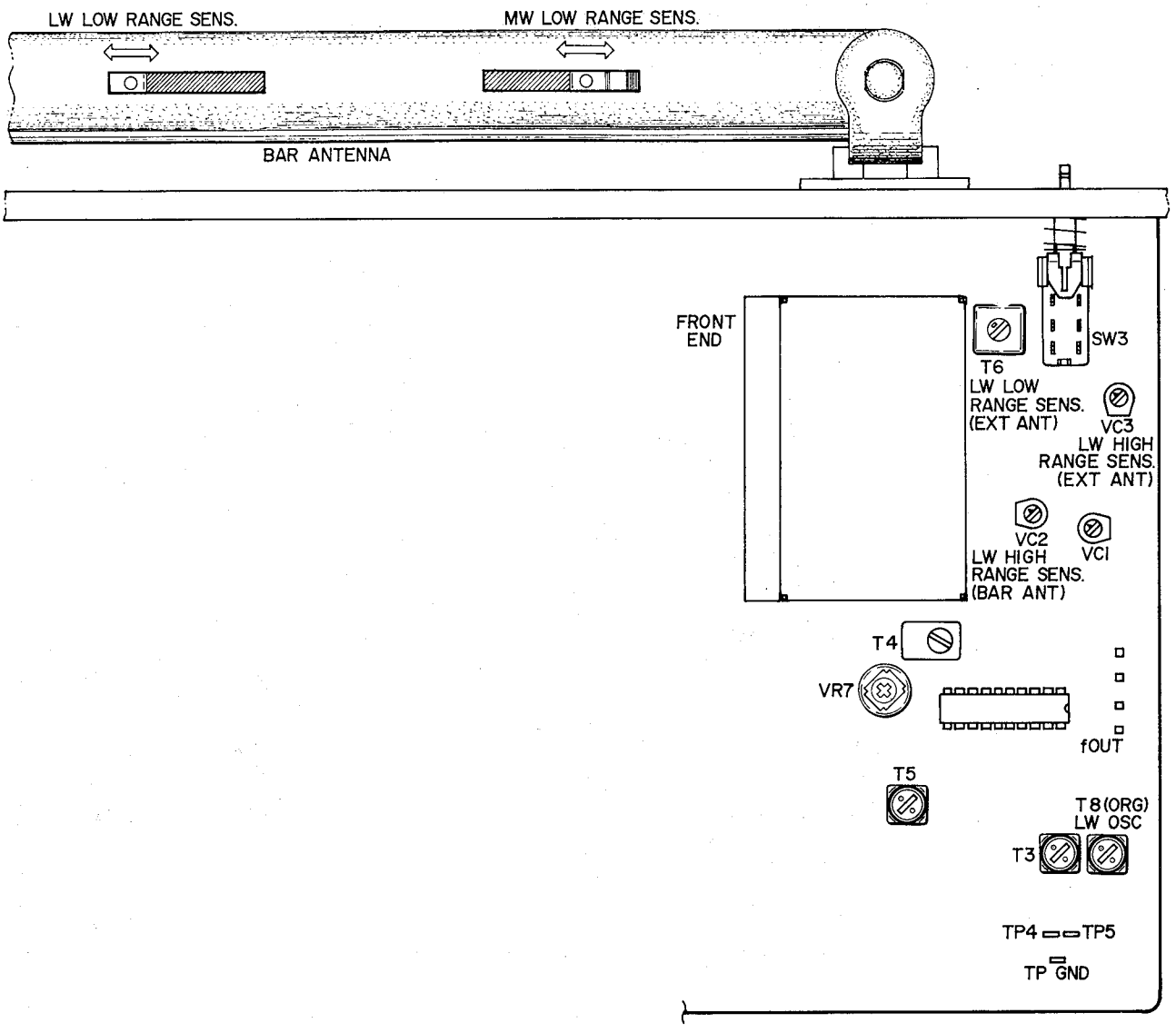


Fig. 10 Tuner P.C Board A3012A501A and Bar Antenna (AT-S330L)

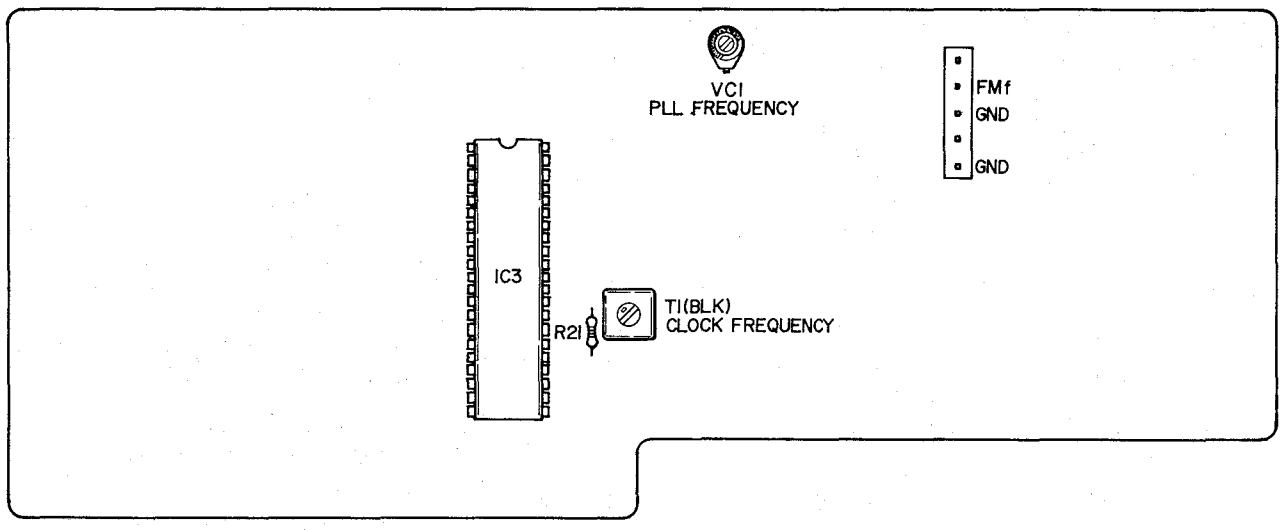


Fig. 11 Synthesizer P.C Board A3012A502A

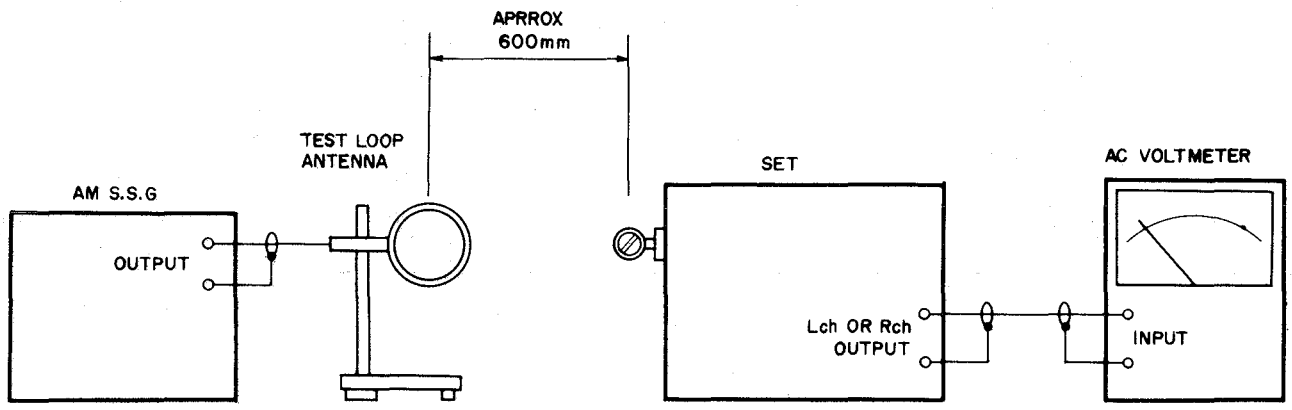


Fig. 12 Instrument Connections for AM (MW) Section Adjustment and Steps 2, 3 of LW Section Adjustment

1. AM (AT-S330L: MW) SECTION ADJUSTMENT (Refer to Figs. 9, 11, 12)

Unless otherwise specified, use the adjustment points provided on the Tuner P.C Board. (Fig. 9)

STEP	ADJUSTMENT ITEM	ADJUSTMENT POINT	RESULT	REMARKS
1	Clock Frequency	T1 (BLK) Synthesizer PCB (Fig. 11)	420 kHz	Connect a Frequency Counter Between R21 (IC3 Pin 28) and GND on the Synthesizer P.C Board.
2	PLL Frequency	VC1 Synthesizer PCB (Fig. 11)	Digital display indicating frequency +10.7 MHz	BAND switch to FM. Connect a Frequency Counter between FM_f and GND on the Synthesizer P.C Board.
3	AM (MW) OSC	T3 (RED)	719 kHz	BAND switch to AM (MW). Short TP4 to GND and connect a Frequency Counter between f_{out} and GND on the Tuner P.C Board.
4	AM IF Coil	T4 (BLK) T5 (BLK)	Maximum Output	1,000 kHz (1,008 kHz), 50 dB, 400 Hz (30%) input.
5	Low Range Sensitivity	Bar Antenna Core AT-S330: Fig. 2 AT-S330L: Fig. 3	Maximum Output Distortion Factor: Less than 10%	600 kHz (603 kHz), 50 dB, 400 Hz (30%) input.
6	High Range Sensitivity	VC1	Maximum Output Distortion Factor: Less than 10%	1,400 kHz (1,404 kHz), 50 dB, 400 Hz (30%) input.
7				Readjust in Steps 5 and 6.
8	Signal LED Sensitivity	VR7		1,000 kHz (1,008 kHz), 74 dB input. Adjust VR7 to a point where 5th LED of SIGNAL LED lights up.

2. LW SECTION ADJUSTMENTS (AT-S330L only: Refer to Figs. 10, 12, 13)

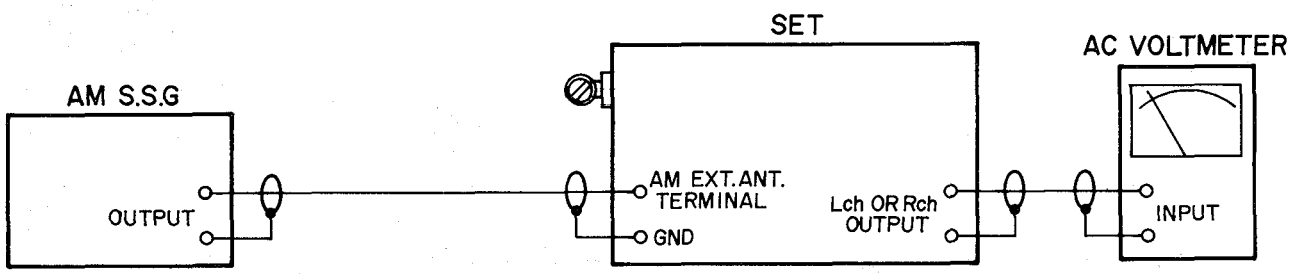


Fig. 13 Instrument Connections for Step 4 and 5 of LW Section Adjustment

Unless otherwise specified, use the adjustment points provided on the Tuner P.C Board. (Fig. 10)

STEP	ADJUSTMENT ITEM	ADJUSTMENT POINT	RESULT	REMARKS
1	LW OSC	T8	530 kHz	BAND Switch to LW. Short TP5 to GND, and connect a Frequency Counter between f_{out} and GND on the Tuner P.C Board.
2	Low Range Sensitivity (Bar Antenna)	Bar Antenna Core (Fig. 10)	Maximum Output Distortion Factor: Less than 10%	ANTENNA SELECTOR to INT. 164 kHz, 50 dB, 400 Hz (30%) input. (Refer to Fig. 12)
3	High Range Sensitivity (Bar Antenna)	VC2	Maximum Output Distortion Factor: Less than 10%	308 kHz, 50 dB, 400 Hz (30%) input. (Refer to Fig. 12)
4	Low Range Sensitivity (EXT. Antenna)	T6	Maximum Output Distortion Factor: Less than 10%	ANTENNA SELECTOR to EXT. 164 kHz, 20 dB, 400 Hz (30%) input. (Refer to Fig. 13)
5	High Range Sensitivity (EXT. Antenna)	VC3	Maximum Output Distortion Factor: Less than 10%	308 kHz, 20 dB, 400 Hz (30%) input. (Refer to Fig. 13)

3. FM SECTION ADJUSTMENT (Refer to Figs. 9, 14)

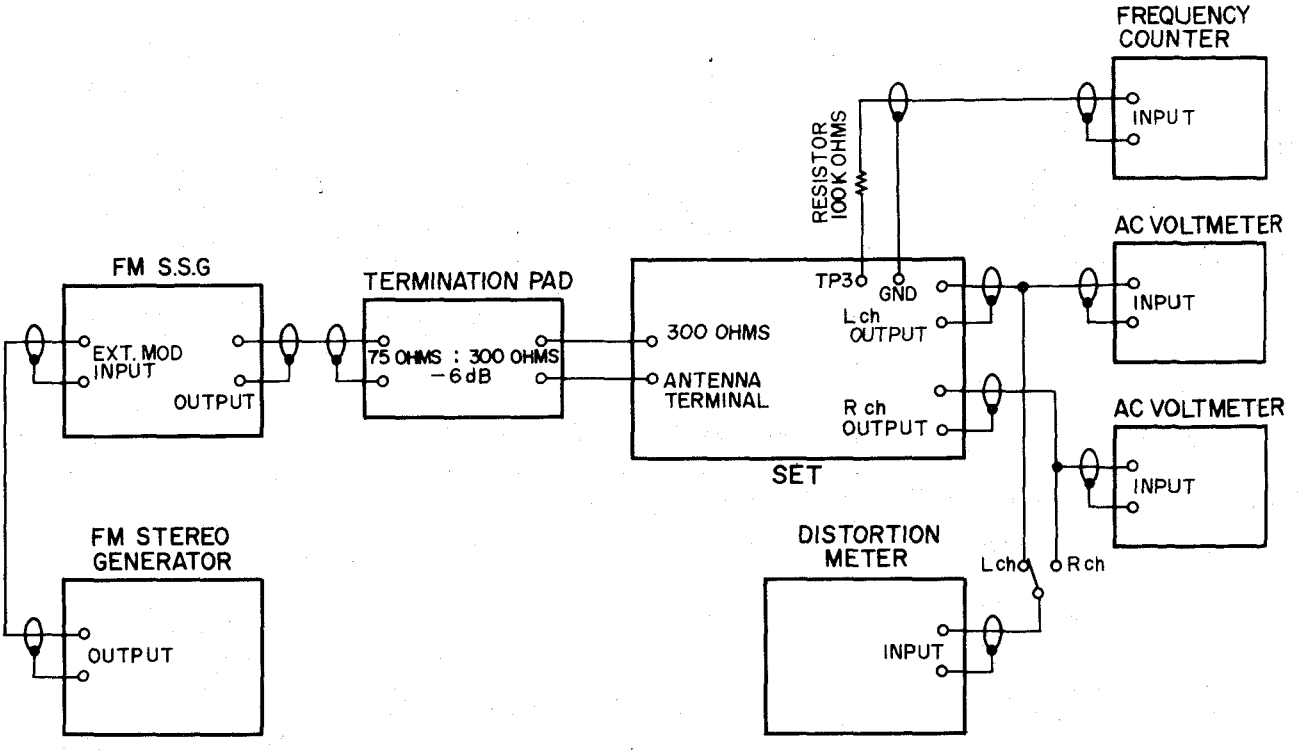


Fig. 14 Instrument Connections

Unless otherwise specified, use the adjustment points provided on the Tuner P.C Board. (Fig. 2)

STEP	ADJUSTMENT ITEM	ADJUSTMENT POINT	RESULT	REMARKS
1	FM IF Coil	T1 (BLK) (Front end)	Maximum Noise Level	BAND switch to FM, and MODE to MONO. Tunes only noise without interference from broadcasting.
2	Center Voltage	T1-a	Centered Tuning Meter Indication	Connect a Center Tuning Meter between TP1 and TP2 (See Note 1) Tunes only noise without interference from broadcasting.
3	Distortion Factor	T1-b	Distortion Factor: Less than 0.3%	98 MHz, 60 dB, 1 kHz (mono 100%) input. Less than 0.3% in both channels.
4				Readjust in steps 2 and 3.
5	MPX Free Running Frequency	VR4	76 kHz ± 50 Hz	Connect a Frequency Counter between TP3 and GND on the Tuner P.C Board (See Note 2).

STEP	ADJUSTMENT ITEM	ADJUSTMENT POINT	RESULT	REMARKS
6	High Range Sensitivity	TC1, TC2, TC3 (Front End)	Distortion Factor: Less than 3%	MODE switch to MONO. 108 MHz, Less than 8 dB, 1 kHz, (MONO) input.
7	Confirmation of Low Range Sensitivity		Distortion Factor: Less than 3%	88 MHz, Less than 8 dB, 1 kHz (MONO) input. (See Note 3, 4)
8	Pilot Signal Cancel	T2 (BLK) VR3	Minimum Output	MODE switch to STEREO. 98 MHz, 60 dB (Stereo), Pilot signal only input.
9	Stereo Separation (Left→Right)	VR6	More than 40 dB	98 MHz, 60 dB, 1 kHz (Stereo 100%) Lch input. Minimum output of Rch.
10	Stereo Separation (Right→Left)	VR5	More than 40 dB	98 MHz, 60 dB, 1 kHz (Stereo 100%) Rch input. Minimum output of Lch.
11	Confirmation of Stereo Distortion Factor		Distortion Factor: Less than 0.5%	98 MHz, 60 dB, 1 kHz (Stereo 100%) input. If distortion exceeds 0.5%. First check according to Steps 2, 3, 5, 9 and 10, and then readjust according to Step 1.
12	Signal LED Sensitivity	VR2		98 MHz, 34 dB input. Adjust VR2 to a point where 5th LED of SIGNAL LED lights up. (See Note 5).
13	Muting Level	VR1	22 dB ±6 dB	MODE switch to STEREO. 98 MHz, 22 dB, 1 kHz (mono 100%) input. Adjust VR1 until the output signal is reduced to zero. Vary the SSG output by ±6 dB and check muting operation.

NOTES:
1. For the Center Meter should be used the tuning meter and the like available as a part of the other models.
2. When connecting a Frequency Counter, connect from TP via 100 kohms resistor. (Refer to Fig. 14)
3. When the specified sensitivity of 8 dB cannot be obtained at the two frequency points, 88 MHz and 108 MHz, repeat the adjustment as described in Step 6.
4. When the distortion factor of sensitivity still does not comply with the data specifications, adjust by turning the Front end IF Coil core, but not more than 1/2 turn.
5. The 5th LED lights up at 33 dB but when the attenuator is decreased 2 dB it is extinguished.

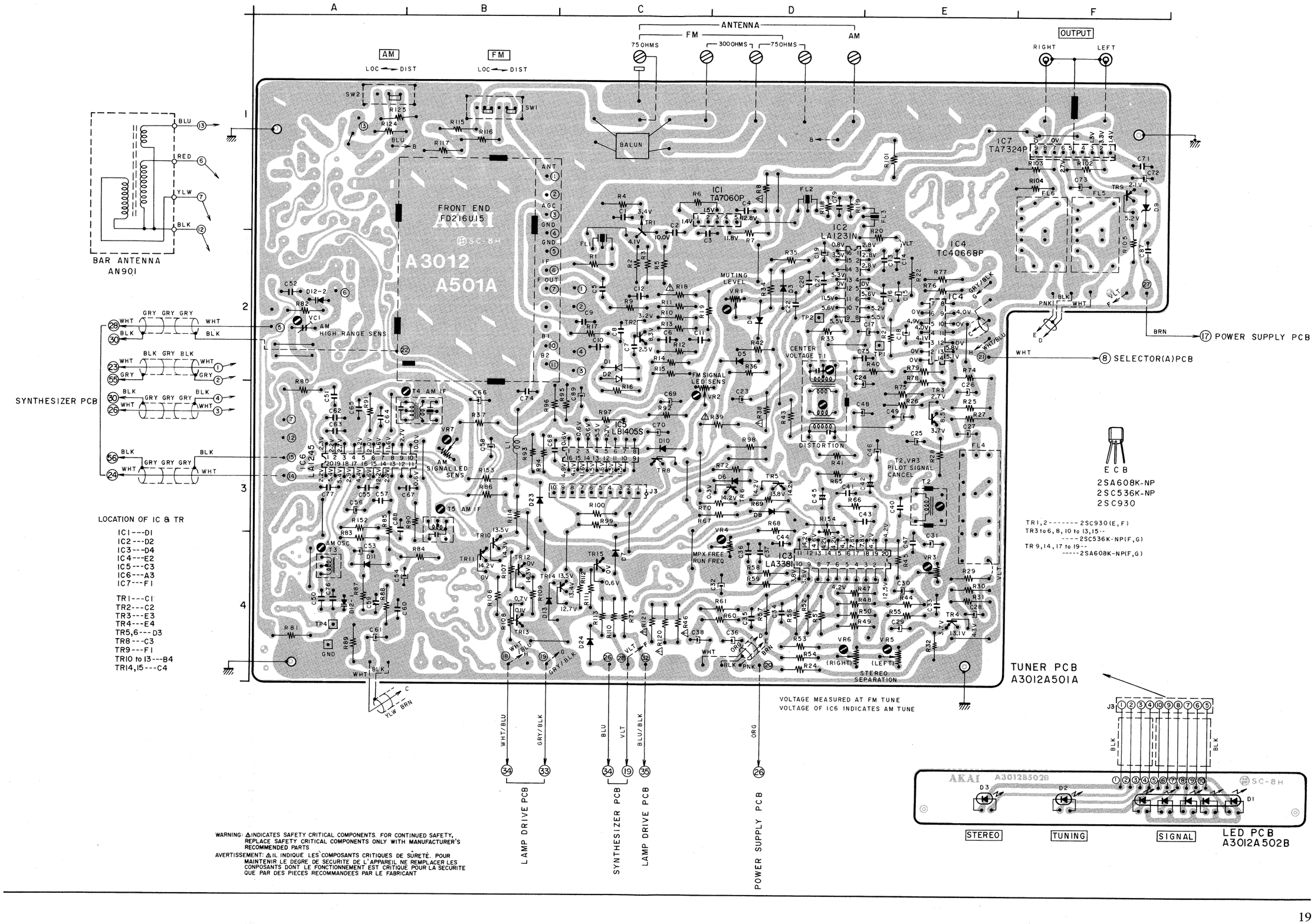
VIII. CLASSIFICATION OF VARIOUS P.C BOARDS

1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C BOARD TITLE	P.C BOARD NUMBER
Tuner P.C Board	A3012A501A
Selector (A) P.C Board	A3012A501B
Selector (B) P.C Board	A3012A501C
Synthesizer P.C Board	A3012B502A
LED P.C Board	A3012B502B
Lamp Drive P.C Board	A3012B5030
Power Supply P.C Board	A3012B5040
Lamp P.C Board	A3012B5050
Battery P.C Board	A3011D5070

2. COMPOSITION OF VARIOUS P.C BOARD

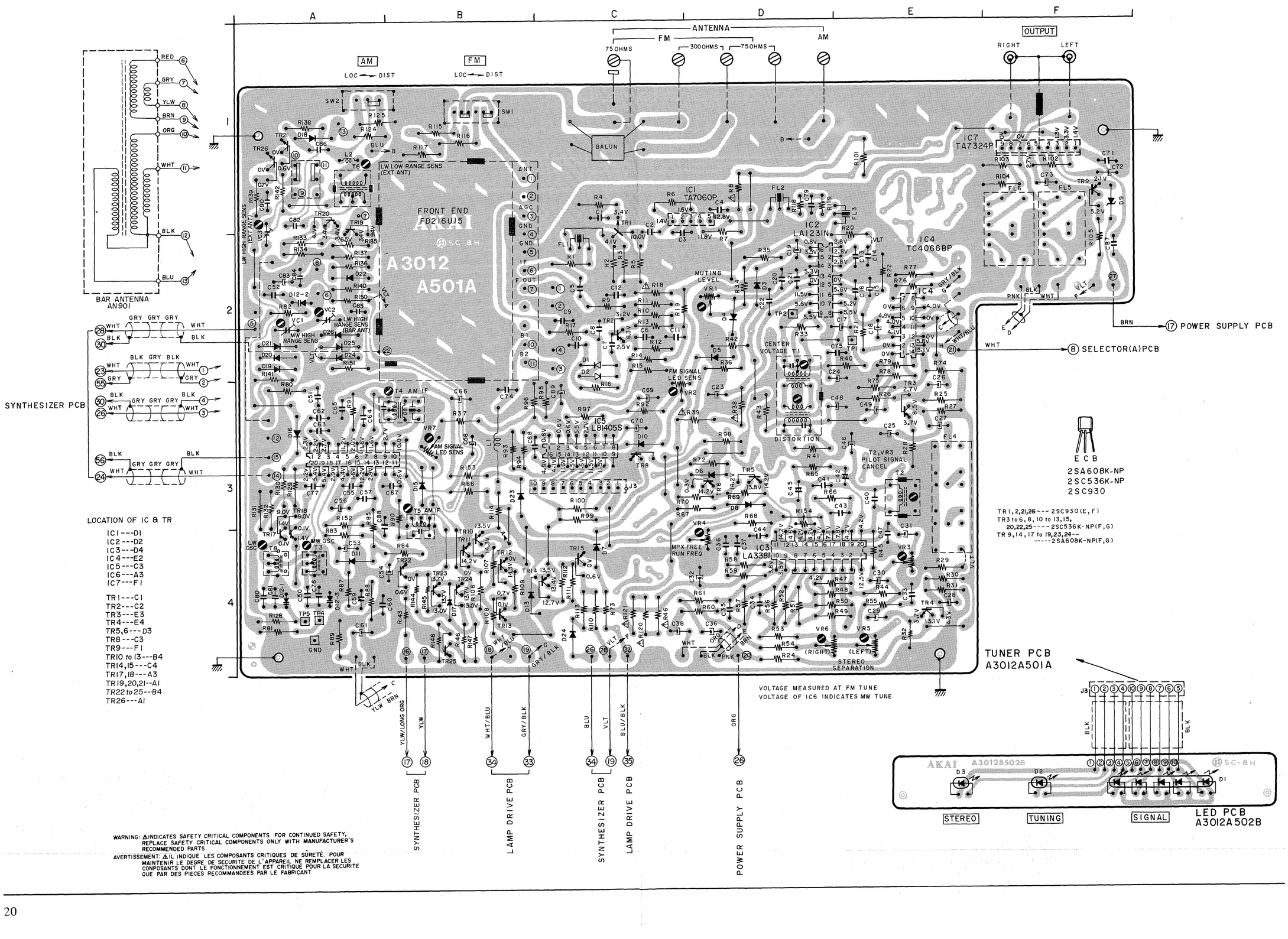
1) Model AT-S330 Tuner P.C Board A3012A501A and LED P.C Board A3012A502B.



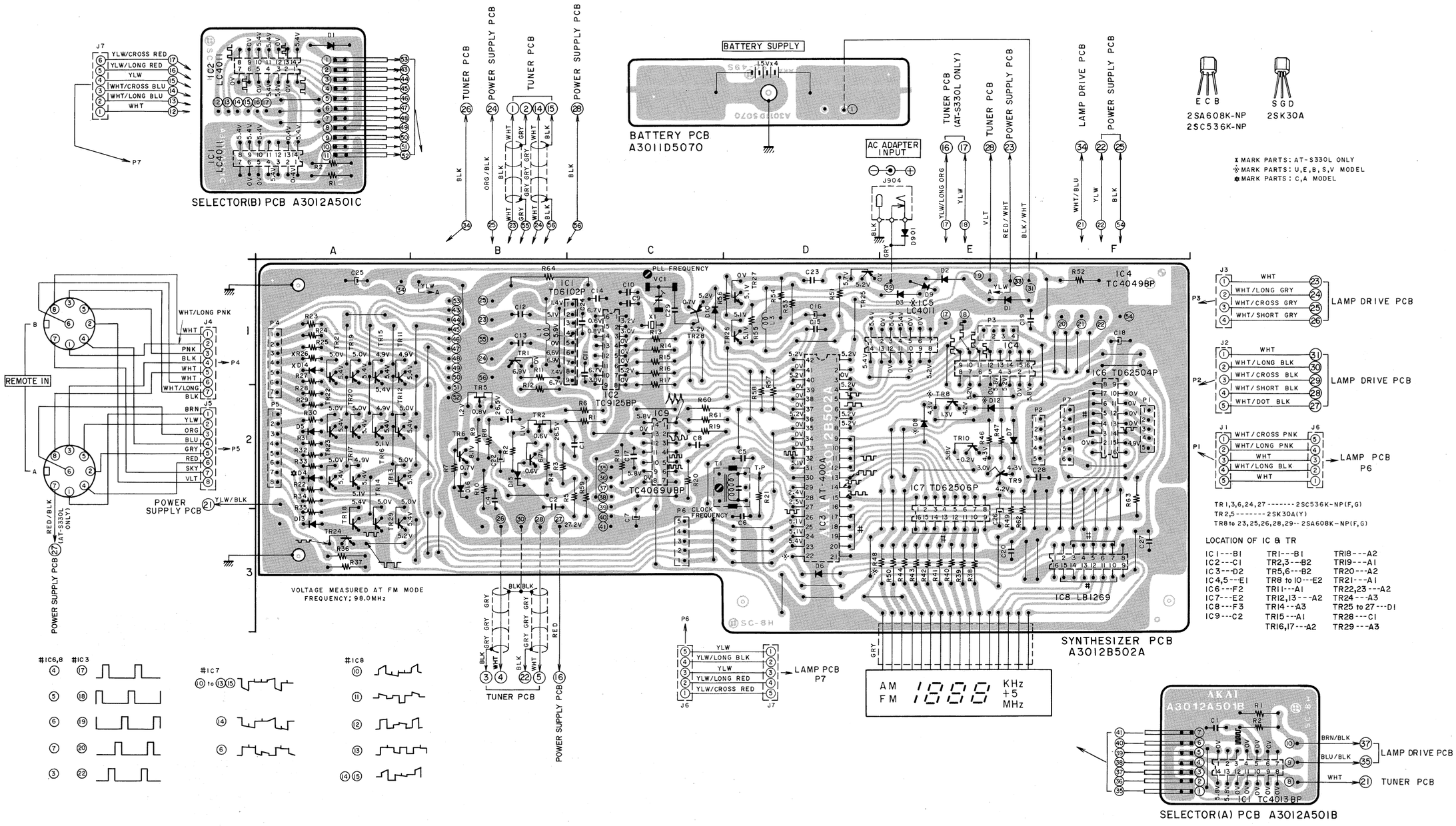
WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

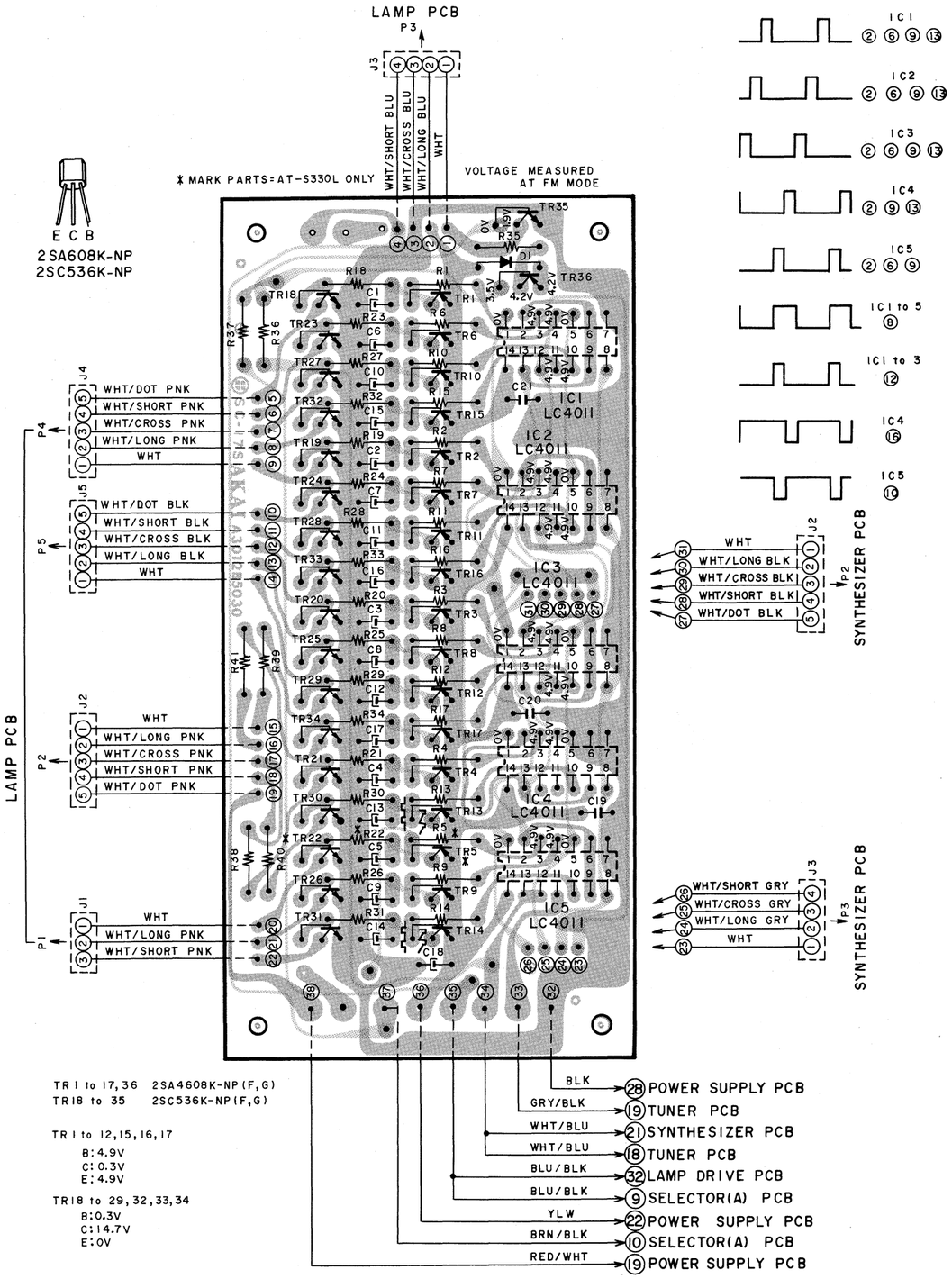
2) Model AT-S330L Tuner P.C Board A3012A501A and LED P.C Board A3012A502B.



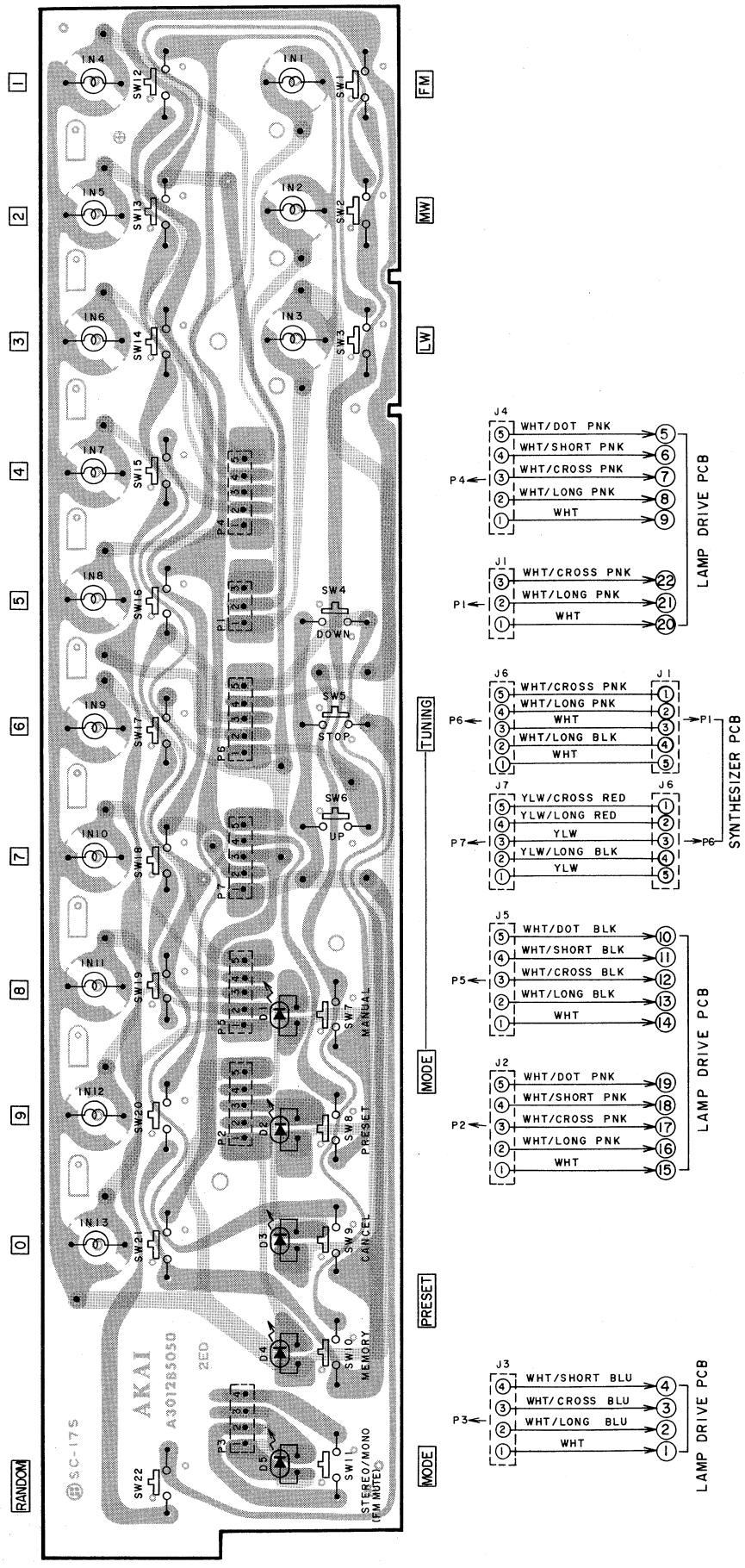
3) Model AT-S330/L Synthesizer P.C Board A3012B502A, Selector (B) P.C Board A3012A501C, Selector (A) P.C Board A3012A501B and Battery P.C Board A3011D5070.



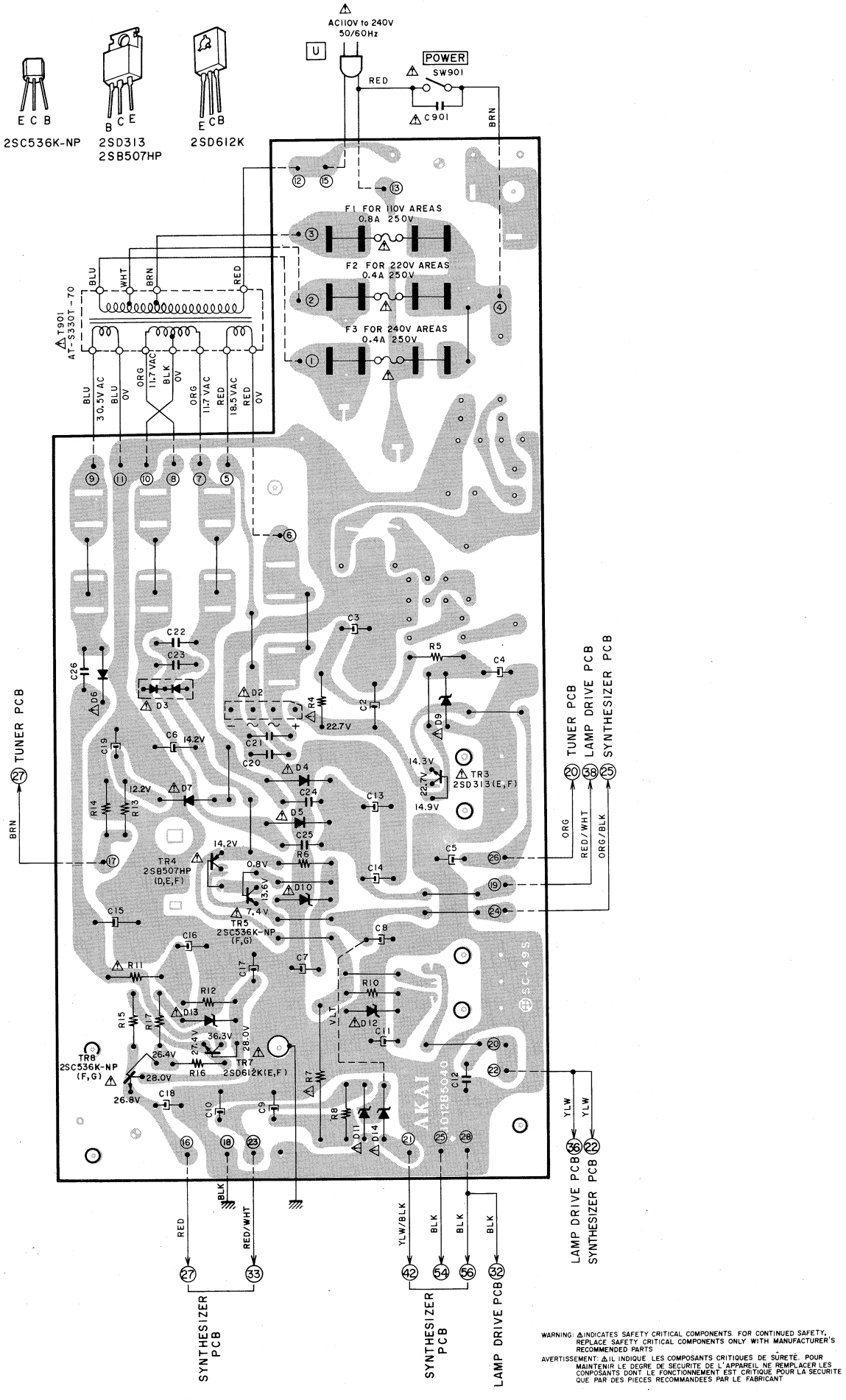
4) Model AT-S330/L Lamp Drive P.C Board A3012B5030.



5) Model AT-S330/L Lamp P.C Board A3012B5050 (2ED)



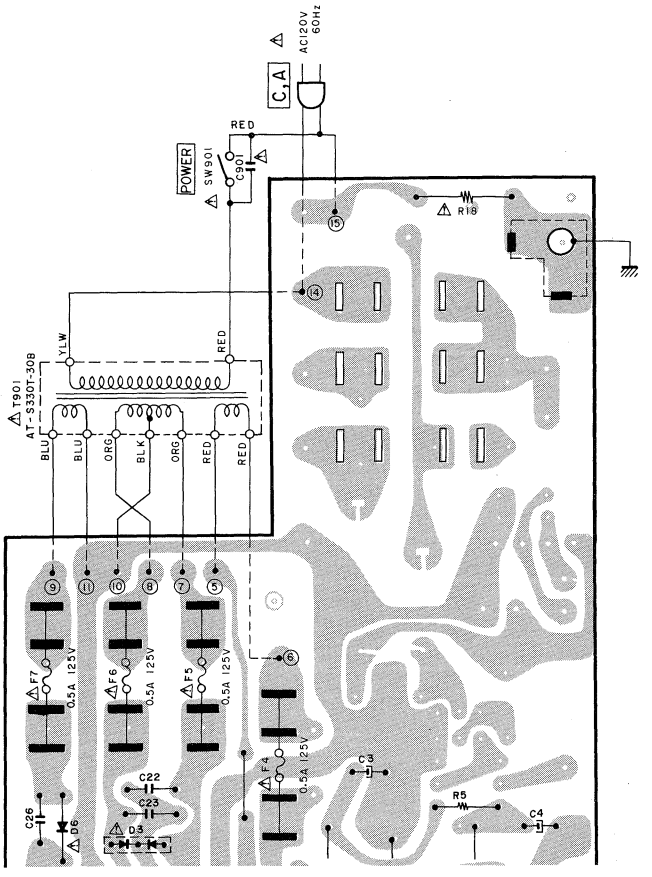
6) Model AT-S330 Power Supply P.C Board A3012B5040 (U).



WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

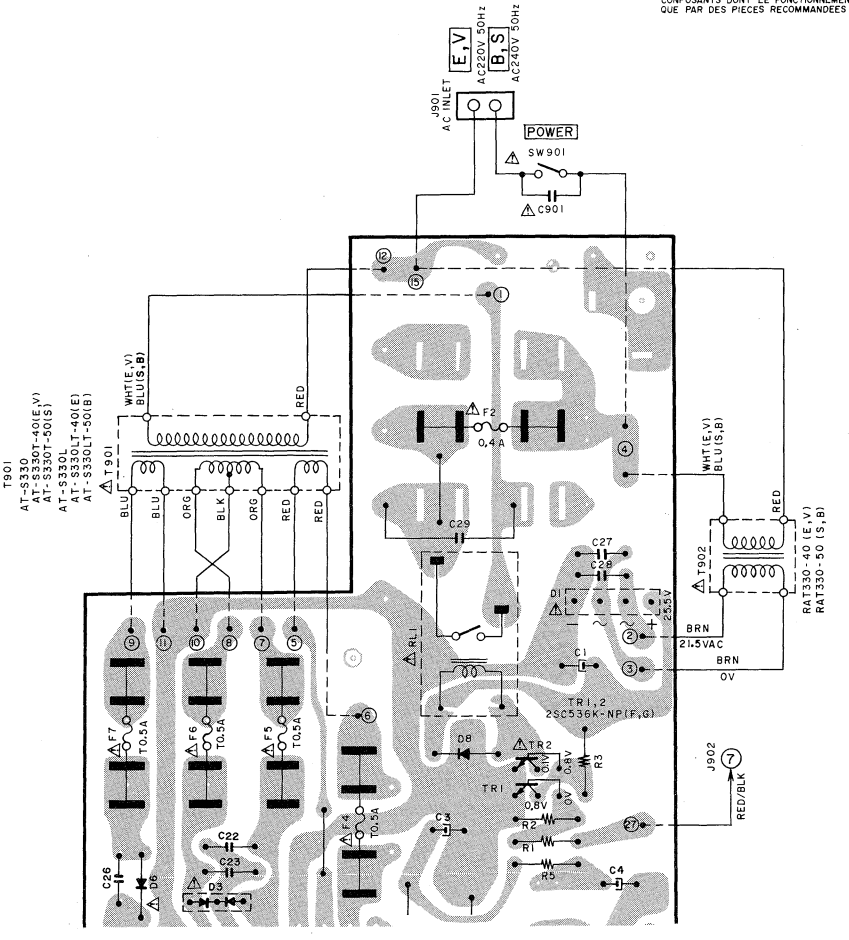
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

7) Model AT-S330 Power Supply P.C Board A3012B5040 (C, A).



WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SÉCURITÉ QUE PAR DES PIÈCES RECOMMANDÉES PAR LE FABRICANT.

8) Model AT-S330/L Power Supply P.C Board A3012B5040 (E, V, B, S).



SECTION 2

PARTS LIST

TABLE OF CONTENTS

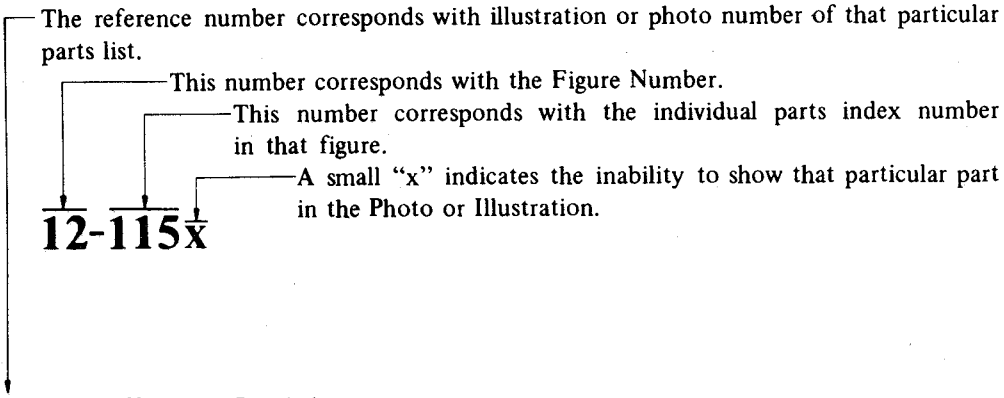
1. RECOMMENDED SPARE PARTS 31
2. TUNER P.C BOARD BLOCK 32
3. SYNTHESIZER P.C BOARD BLOCK 33
4. POWER SUPPLY P.C BOARD 33
5. LAMP DRIVE P.C BOARD BLOCK 33
6. ASSEMBLY BLOCK 35
7. FINAL ASSEMBLY BLOCK 36

INDEX 37

Resistor and Capacitor which are not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. This parts list is compiled by various individual blocks based on assembly process.
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read list.


The reference number corresponds with illustration or photo number of that particular parts list.
This number corresponds with the Figure Number.
This number corresponds with the individual parts index number in that figure.
A small "x" indicates the inability to show that particular part in the Photo or Illustration.
12-115x

Ref. No.	Parts No.	Description
		FLYWHEEL BLOCK #13
12-115x	800425	Flywheel Block Assy. Comp.
12-116	244506	Flywheel Only
12-117x	244754	Felt, Flywheel
12-118	251324	Main Metal Case
12-119	253080	Main Metal

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of components of the Schematic Diagram or Service Manual.
5. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:

1. **When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.**
2. **Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.**
3. **Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.**

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMEMNDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

PARTS LIST

1. RECOMMENDED SPARE PARTS

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

REF. NO.	PARTS NO.	DESCRIPTION
1-1	BT330982	⚠ TRANS POWER AT-S330LT-40 (E)
1-2	BT330983	⚠ TRANS POWER AT-S330LT-50 (B)
1-3	BT330684	⚠ TRANS POWER AT-S330T-30B (C, A)
1-4	BT330685	⚠ TRANS POWER AT-S330T-40 (E, V)
1-5	BT330686	⚠ TRANS POWWER AT-S330T-50 (S)
1-6	BT330687	⚠ TRANS POWER AT-S330T-70 (U)
1-7	BT330852	⚠ TRANS POWER RAT330-40 (E, V)
1-8	BT330851	⚠ TRANS POWER RAT330-50 (B, S)
1-9	ED309341	D GERMA H 1K34A
1-10	ED322247	D LED SLP-151D RED
1-11	ED322184	D LED SLP-152D RED
1-12	ED322772	D LED SLP-155D-01 RED
1-13	ED322215	D LED SLP-251D GRN
1-14	ED315365	D SILICON DS131B 200/1.8A
1-15	ED327057	D SILICON H DS442X
1-16	ED560913	D SILICON V 1S2473VE
1-17	ED322238	D SILICON 1B4B41 100/1.0A
1-18	ED224526	D SILICON 10D1 100/1.0A
1-19	ED325090	D VARACTOR KV1225X TRIPLE
1-20	ED324197	D VARACTOR KV1226X DOUBLE
1-21	ED303034	D ZENER H WZ-054
1-22	ED330862	D ZENER H WZ-056
1-23	ED570510	D ZENER H WZ-058
1-24	ED322809	D ZENER H WZ-081
1-25	ED237960	D ZENER H WZ-150
1-26	ED201448	D ZENER H WZ-280
1-27	EE330688	ANT BAR AT-S330 MW
1-28	EE330690	ANT BAR AT-S330L LW/MW
1-29	EE325119	FRONT END FD216U15 87-109MHZ (EXCEPT V)
1-30	EE332217	FRONT END FD222E13 87-108MHZ (V)
1-31	EF300596	⚠ FUSE FST3100 T 250V 0.20A (F7) (E, B, S, V)
1-32	EF300599	⚠ FUSE FST3100 T 250V 0.40A (F2) (E, B, S, V)
1-33	EF300601	⚠ FUSE FST3100 T 250V 0.50A (F4 to 6) (E, B, S, V)
1-34	EF309389	⚠ FUSE TSC A 250V 0.40A (F2, 3) (U)
1-35	EF309388	⚠ FUSE TSC A250V 0.80A (F1) (U)
1-36	EF309390	⚠ FUSE TSC 125V 0.50V (F4 to 7) (C, A)
1-37	EI202210	IC AT400A
1-38	EI322248	IC LA1231N
1-39	EI202218	IC LA1245
1-40	EI332206	IC LA3381
1-41	EI307991	IC LB1269
1-42	EI315491	IC LB1405S
1-43	EI330689	IC LC4011
1-44	EI573838	IC TA7060P
1-45	EI323247	IC TA7324P
1-46	EI306727	IC TC4013BP
1-47	EI330965	IC TC4049BP
1-48	EI310036	IC TC4066BP
1-49	EI306726	IC TC4069UBP
1-50	EI336717	IC TC9125BP
1-51	EI315381	IC TD6102P
1-52	EI327066	IC TD62504P
1-53	EI202211	IC TD62506P
1-54	EJ330716	DIN J TCS0284-01-1201 L 8P
1-55	EL330853	PL SOCKET 16.0V 80MA
1-56	EM202209	IND LED SL1724-02W CHARACTER
1-57	EP330854	RELAY POWER AR32128 1NO 24V (E, B, S, V)
1-58	ER323258	FILTER CE SFE10.7MP3A 10.7MHZ
1-59	ER328855	FILTER LC LP 12A1251 AKAI
1-60	ER322237	FILTER LC LP 209BLRG-3368N
1-61	ES310839	⚠ SW PUSH SDG1P-E 01-1 E (U, E, B, S, V)
1-62	ES665875	⚠ SW PUSH SDG1P-J 01-1 UC (C, A)
1-63	ES330691	SW PUSH SUF12 2-02-02N
1-64	ES323241	SW SLIDE SW0525-01-010 1-02-02
1-65	ES323240	SW SLIDE 12156 1-01-02N
1-66	ES323367	SW TACT KEC10001
1-67	ET230534	TR FET 2SK30A Y
1-68	ET322244	TR 2SA608K-NP F, G
1-69	ET323348	TR 2SB507HP D, E, F
1-70	ET316643	TR2SC536K-NP F, G
1-71	ET618873	TR 2SC930 E, F
1-72	ET452531	TR 2SD313 E, F
1-73	ET310148	TR 2SD612K E, F

Symbol For Distination

- **U:** Universal Area
- **A:** America
- **B:** UK
- **C:** Canada
- **E:** Europe
- **J:** Japan
- **S:** Australia
- **V:** Germany

When ordering parts, please quote Parts Number, Description and Model Number.

2. TUNER P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1	BAA3012A020A	PC TUNER BLK AT-S330 (U) (U, E, S)
2-2	BAA3012A020B	PC TUNER BLK AT-S330 (C) (C, A)
2-3	BAA3012A020E	PC TUNER BLK AT-S330 (V)
2-4	BAA3012A020D	PC TUNER BLK AT-S330L
2-5	EE325119	FRONT END FD216U15 87-109MHZ (EXCEPT V)
2-6	EE332217	FRONT END FD222E13 87-108MHZ (V)
2-IC1	EI573838	IC TA7060P
2-IC2	EI322248	IC LA1231N
2-IC3	EI332206	IC LA3381
2-IC4	EI310036	IC TC4066BP
2-IC5	EI315491	IC LB1405S
2-IC6	EI202218	IC LA1245
2-IC7	EI323247	IC TA7324P
2-TR1	ET618873	TR 2SC930 E, F
2-TR2	ET618873	TR 2SC930 E, F (EXCEPT V)
2-TR3 to 6	ET316643	TR 2SC536K-NP F, G
2-TR8	ET316643	TR 2SC536K-NP F, G
2-TR9	ET322244	TR 2SA608K-NP F, G
2-TR10 to 13	ET316643	TR 2SC536K-NP F, G
2-TR14	ET322244	TR 2SA608K-NP F, G
2-TR15	ET316643	TR 2SC536K-NP F, G
2-TR17 to 19	ET322244	TR 2SA608K-NP F, G (L)
2-TR20	ET316643	TR 2SC536K-NP F, G (L)
2-TR21	ET618873	TR 2SC930 E, F (L)
2-TR22	ET316643	TR 2SC536K-NP F, G (L)
2-TR23, 24	ET322244	TR 2SA608K-NP F, G (L)
2-TR25	ET316643	TR 2SC536K-NP F, G (L)
2-TR26	ET618873	TR 2SC930 E, F (L)
2-D1, 2	ED309341	D GERMA H 1K34A (EXCEPT V)
2-D3 to 8	ED327057	D SILICON H DS442X
2-D9	ED570510	D ZENER H WZ-058
2-D10	ED327057	D SILICON H DS442X
2-D11	ED323057	D VARISTER MV12
2-D12	ED324197	D VARACTOR KV1226X DOUBLE (EXCEPT L)
2-D12	ED325090	D VARACTOR KV1225X TRIPLE (L)
2-D3	ED327057	D SILICON H DS442X
2-D15 to 22	ED327057	D SILICON H DS442X (L)
2-D23	ED327057	D SILICON H DS442X
2-D24 to 26	ED327057	D SILICON H DS442X (L)
2-D27	ED327057	D SILICON H DS442X
2-SW1	ES323241	SW SLIDE SW0525-01-010 1-02-02 (EXCEPT V)
2-SW2	ES323240	SW SLIDE 12156 1-01-02N
2-SW3	ES330691	SW PUSH SUF12 2-02-02N (L)
2-VR1	EV330863	R S-FIX H SR19R 3P 0.15W 333
2-VR2, 3	EV380215	R S-FIX H SR19R 3P 0.15W 104
2-VR4	EV618131	R S-FIX H CR19R 3P 0.50W 103
2-VR5, 6	EV551452	R S-FIX H SR19R 3P 0.15W 223
2-VR7	EV330863	R S-FIX H SR19R 3P 0.15W 333
2-L1	EO328137	COIL FIX 2 NI-0036 2.2UH
2-L2	EO485278	COIL FIX1 FL05H 220UH K (L)
2-T1	EO328854	COIL DET2 Q228CEL-1098R
2-T2	EO322241	COIL VARI 1 CANS-3700Z 15MH
2-T3	EO202215	COIL OSC 2 7NR-6721Y 100UH
2-T4	EO325117	COIL IFT CFMA-042 459KHZ (EXCEPT C, A)
2-T4	EO315401	COIL IFT CFMA-014 460KHZ (C, A)
2-T5	EO202216	COIL IFT 7MC-6733C 460KHZ
2-T6	EO330693	COIL VARI2 RUR44645N (L)
2-T7	BT444137	COIL BALUM 75 OHMS/300 OHMS (EXCEPT V)
2-T8	EO307786	COIL OSC 2 7NR-6722Y 580UH (L)
2-FL1 to 3	ER323258	FILTER CE SFE10.7MP3A 10.7MHZ
2-FL4	ER322237	FILTER LC LP 209BLRG-3368N
2-FL5, 6	ER328855	FILTER LC LP 12A1251 AKAI
2-J1	TA307988	TERMINAL SCREW TYPE T5559-B P 5P (EXCEPT V)
2-J1	TA332219	TERMINAL W/SCREW UB-0072 S 2P (V)
2-J2	EJ323227	PIN J T5727-A P 2P
2-VC1	EC330692	C S-FIX H TZ03R200E 4.2-20
2-VC2, 3	EC330692	C S-FIX H TZ03R200E 4.2-20 (L)
2-FR1	ER200972	⚠ R FUSE ERD2FC 1/4W 33R0G
2-R8	ER327710	⚠ R CB H SNP FS RDS 1/4W 151J
2-R18, 19	ER327710	⚠ R CB H SNP FS RDS 1/4W 151J
2-R38, 39	ER324337	⚠ R CB H SNP FS RDS 1/4W 560J
2-R46	ER324934	⚠ R CB H SNP FS RDS 1/4W 220J
2-R86	ER327710	⚠ R CB H SNP FS RDS 1/4W 151J
2-R114	ER336946	⚠ R OMF SNP FS 1W 390J
2-R120, 121	ER324934	⚠ R CB H SNP FS RDS 1/4W 220J
2-C34, 35	EC330309	C STY F05 CQ09S 511J 50DC (EXCEPT C, A)
2-C34, 35	EC328266	C STY V F05 CQ09S 751J 50DC (C, A)
2-C42	EC313534	C EC V F05 NP 04D 100M 16DC
2-C44	EC434070	C STY V 681J 50DC
2-C45	EC315335	C EC V F05 NP 04D 4R7M 25DC
2-C50	EC300448	C STY V F05 CQ09S 4900G 50DC
2-C80	EC513977	C STY V 151J 50DC (L)

3. SYNTHESIZER P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
3-1	BAA3012A030A	PC SYNTHESIZER BLK AT-S330 (U)
3-2	BAA3012A030B	PC SYNTHESIZER BLK AT-S330 (C) (C, A)
3-3	BAA3012A030C	PC SYNTHESIZER BLK AT-S330 (E) (E, S, V)
3-4	BAA3012A030D	PC SYNTHESIZER BLK AT-S330L
3-IC1	EI315381	IC TD6102P
3-IC2	EI336717	IC TC9125BP
3-IC3	EI202210	IC AT400A
3-IC4	EI330965	IC TC4049BP
3-IC5	EI330689	IC LC4011 (L)
3-IC6	EI327066	IC TD62504P
3-IC7	E1202211	IC TD62506P
3-IC8	EI307991	IC LB1269
3-IC9	EI306726	IC TC4069UBP
3-TR1	ET316643	TR 2SC536K-NP F, G
3-TR2	ET230534	TR FET 2SK30A Y
3-TR3	ET316643	TR 2SC536K-NP F, G
3-TR5	ET230534	TR FET 2SK30A Y
3-TR6	ET316643	TR 2SC536K-NP F, G
3-TR8	ET322244	TR 2SA608K-NP F, G (EXCEPT C, A)
3-TR9 to 20	ET322244	TR 2SA608K-NP F, G
3-TR21	ET322244	TR 2SA608K-NP F, G (L)
3-TR22,23	ET322244	TR 2SA608K-NP F, G
3-TR24	ET316643	TR 2SC536K-NP F, G
3-TR25, 26	ET322244	TR 2SA608K-NP F, G
3-TR27	ET316643	TR 2SC536K-NP F, G
3-TR28, 29	ET322244	TR 2SA608K-NP F, G
3-D1 to 3	ED327057	D SILICON H DS442X
3-D4	ED560913	D SILICON V 1S2473VE (C, A)
3-D5	ED560913	D SILICON V 1S2473VE (EXCEPT C, A)
3-D6	ED327057	D SILICON H DS442X
3-D7	ED224526	D SILICON 10D1 100/1.0A
3-D8	ED327057	D SILICON H DS442X (EXCEPT C, A)
3-D9, 10	ED327057	D SILICON H DS442X
3-D12	ED224526	D SILICON 10D1 100/1.0A (EXCEPT C, A)
3-D13	ED560913	D SILICON V 1S2473VE
3-D14	ED560913	D SILICON V 1S2473VE (L)
3-D15, 16	ED560913	D SILICON V 1S2473VE
3-L1	EO328137	COIL FIX 2 NI-0036 2.2UH
3-L3	EO328137	COIL FIX 2 NI-0036 2.2UH
3-IN1	EM202209	IND LED SL1724-02W CHARACTER
3-T1	BT327067	COIL IFT RMC-44357Z 460KHZ
3-X1	EI327074	OSC X'TAL HC-18/U 9MHZ
3-VC1	EC300191	C S-FIX H ECV-1ZW30×32E 4.0-34
3-FR1	ER200595	⚠ R FUSE ERD2FC F10 1/4W 5R5J
3-R59	ER325114	⚠ R CB H SNP FS RDS 1/4W 330J
3-C8	EC327096	C STY V F05 CQ09S 222J 50.0DC
		CHANGE (A) P.C BOARD BLOCK
3-IC1	EI306727	IC TC4013BP
		CHANGE (B) P.C BOARD BLOCK
3-IC1, 2	EI330689	IC LC4011
3-D1	ED327057	D SILICON H DS442X

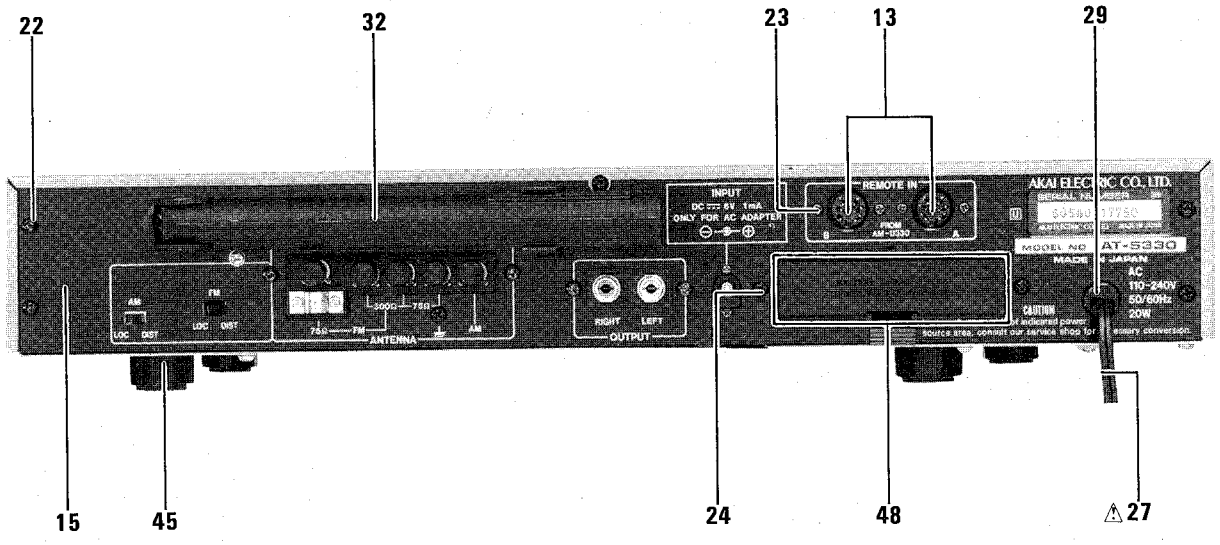
4. POWER SUPPLY P.C BOARD BLOCK

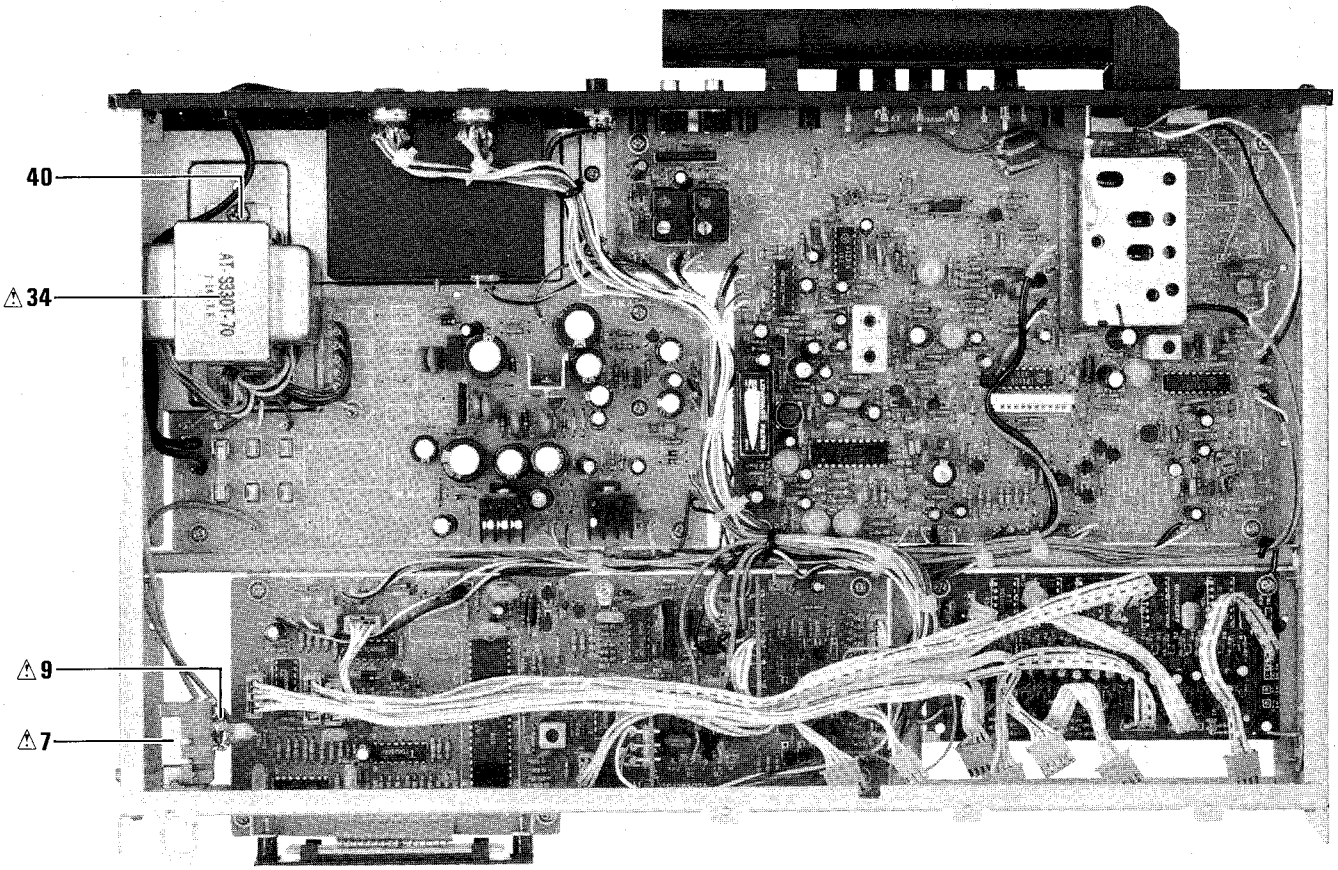
REF. NO.	PARTS NO.	DESCRIPTION
4-1	BAA3012A060A	PC POWER BLK AT-S330 (U)
4-2	BAA3012A060B	PC POWER BLK AT-S330 (C) (C, A)
4-3	BAA3012A060C	PC POWER BLK AT-S330 (E) (E, B, S, V)
4-TR1, 2	ET316643	TR 2SC536K-NP F, G (E, B, S, V)
4-TR2	ET316643	⚠ TR 2SC536K-NP F, G (E, B, S)
4-TR3	ET452531	⚠ TR 2SD313 E, F
4-TR4	ET323348	⚠ TR 2SB507HP D, E, F
4-TR5	ET316643	⚠ TR 2SC536K-NP F, G
4-TR6	ET452531	⚠ TR 2SD313 E, F
4-TR7	ET310148	⚠ TR 2SD612K E, F
4-TR8	ET316643	⚠ TR 2SC536K-NP F, G
4-D1	ED322238	⚠ D SILICON 1B4B41 100/1.0A (E, B, S, V)
4-D2	ED322238	⚠ D SILICON 1B4B41 100/1.0A
4-D3	ED315365	⚠ D SILICON DS131B 200/1.8A
4-D4 to 7	ED224526	⚠ D SILICON 10D1 100/1.0A
4-D8	ED224526	D SILICON 10D1 100/1.0A (E, B, S, V)
4-D9	ED237960	⚠ D ZENER H ZW-150
4-D10	ED322809	⚠ D ZENER H WZ-081
4-D11	ED330862	⚠ D ZENER H WZ-056
4-D12	ED303034	⚠ D ZENER H WZ-054
4-D13	ED201448	⚠ D ZENER H WZ-280
4-D14	ED570510	⚠ D ZENER H WZ-058
4-RL1	EP330854	⚠ RELAY POWER AR32128 1NO 24V (E, B, S, V)
4-R4	ER323074	⚠ R CB H SNP FS RDS 1/4W 102J
4-R7	ER624756	⚠ R OMF H FS 2W 331J
4-R11	ER323074	⚠ R CB H SNP FS RDS 1/4W 102J
4-C20 to 26	EC320548	C CE V F 103Z 250AC
4-C27, 28	EC320548	C CE V F 103Z 250AC (E, B, S, V)
4-C29	EC330308	⚠ C MMY V ECQUF 103M 250AC (E, B, S, V)
4-F1	EF309388	⚠ FUSE TSC A 250V 0.80A (U)
4-F2, 3	EF309389	⚠ FUSE TSC A 250V 0.40A (U)
4-F4 to 7	EF309390	⚠ FUSE TSC 125V 0.50V (C, A)
4-F2	EF300599	⚠ FUSE FST3100 T 250V 0.40A (E, B, S, V)
4-F4 to 6	EF300601	⚠ FUSE FST3100 T 250V 0.50A (E, B, S, V)
4-F7	EF300596	⚠ FUSE FST3100 T 250V 0.20A (E, B, S, V)

5. LAMP DRIVE P.C BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
5-1	BAA3012A100A	PC LAMP DRIVE BLK AT-S330
5-2	BAA3012A100B	PC LAMP DRIVE BLK AT-S330L
5-IC1 to 5	EI330689	IC LC4011
5-TR1 to 4	ET322244	TR 2SA608K-NP F, G
5-TR5	ET322244	TR 2SA608K-NP F, G (L)
5-TR6 to 17	ET322244	TR 2SA608K-NP F, G
5-TR18 to 21	ET316643	TR 2SC536K-NP F, G
5-TR22	ET316643	TR 2SC536K-NP F, G (L)
5-TR23 to 35	ET316643	TR 2SC536K-NP F, G
5-TR36	ET322244	TR 2SA608K-NP F, G
5-D1	ED327057	D SILICON H DS442X

ASSEMBLY BLOCK



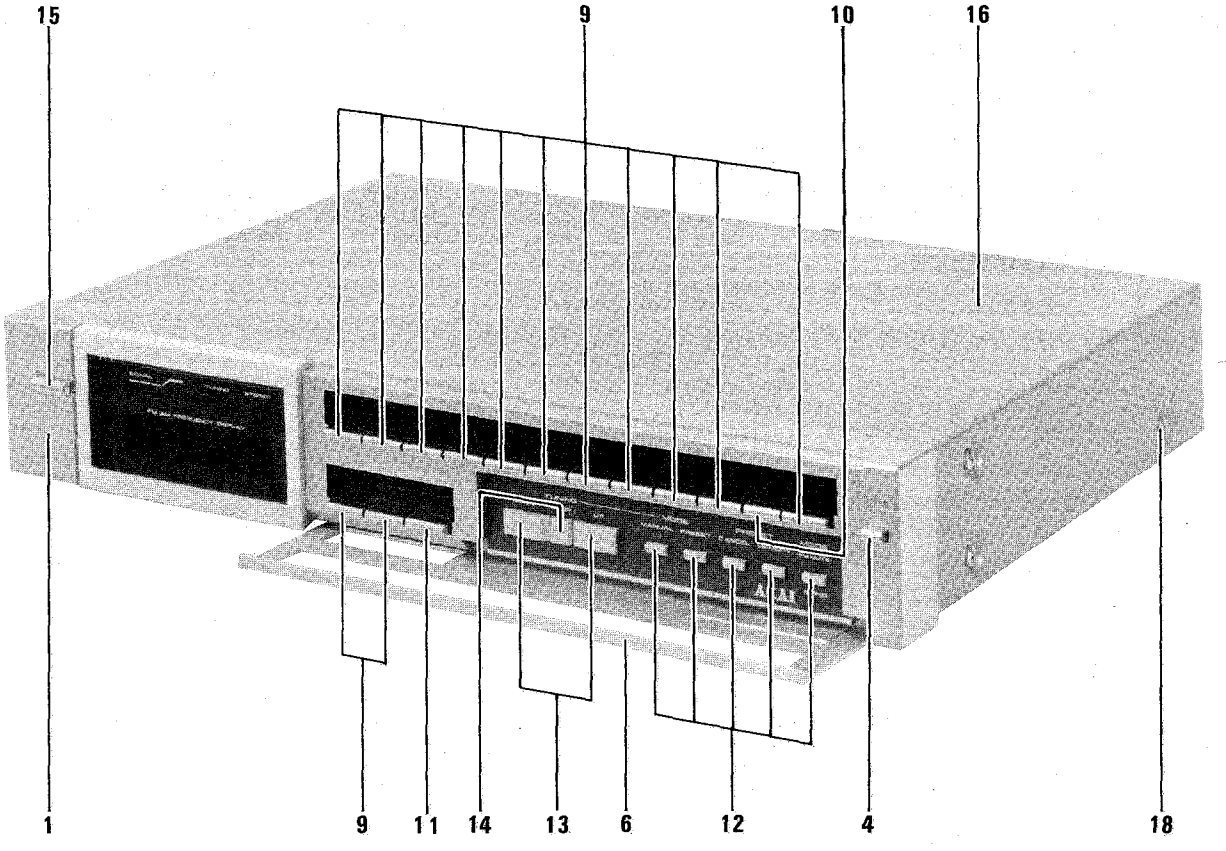


6. ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
		LED P.C BOARD BLOCK
6-1x	ED322184	D LED SLP-152 D RED (D1)
6-2x	ED322215	D LED SLP-251D GRN (D2)
6-3x	ED322247	D LED SLP-151D RED (D3)
		LAMP P.C BOARD BLOCK
6-4x	EL330853	PL SOCKET 16.0V 80MA (IN1 to 13)
6-5x	ES323367	SW TACT KEC10001 (SW1 to 22)
6-6x	ED322772	D LED SLP-155D-01 RED (D1 to 5)
		POWER SW BLOCK
6-7	ES310839	⚠ SW PUSH SDG1P-E 01-1 E (U, E, B, S, V)
6-8x	ES665875	⚠ SW PUSH SDG1P-J 01-1 UC (C, A)
6-9	EC320548	⚠ C CE V F 103Z 250AC (U)
6-10	EC314688	⚠ C CE V FZ 103P 125AC (C, A)
6-11x	EC330307	⚠ C MMY V ECQUF 472M 250AC (E, B, S, V)
		BATTERY P.C BOARD BLOCK
6-12x	EA202205	PC BATTERY
		DIN JACK BLOCK
6-13	EJ330716	DIN J TCS0284-01-1201 L 8P (J 902, 903)
		ASSEMBLY BLOCK
6-14x	MB282104	BRAKE RUBBER
6-15	SP330734A	PANEL REAR AT-S330 (U)
6-16x	SP330734B	PANEL REAR AT-S330 (C)
6-17x	SP330734C	PANEL REAR AT-S330 (A)
6-18	SP330734E	PANEL REAR AT-S330 (E)
6-19x	SP330734F	PANEL REAR AT-S330 (B, S)
6-20x	SP330734G	PANEL REAR AT-S330L (E)
6-21x	SP330734H	PANEL REAR AT-S330L (B, S)
6-22	ZS319460	T2BR30x06STL BZN PROJECTION
6-23	ZS609478	PAN26x06STL BNI
6-24	ZS319460	T2BR30x06STL BZN PROJECTION
6-25x	ED327057	D SILICON H DS442X (D901)
6-26x	ZS608152	PAN23x06STL BNI
6-27	EW306428	⚠ AC CORD 2 CORES KP-205A, VFF UCJ (U)
6-28x	EW305691	⚠ AC CORD 2 CORES KP-8, SPT-1 UC (C, A)
6-29	SZ631945	STRAIN RELIEF SR-4N-4 (U, C, A)
6-30x	EJ301513	⚠ SOCKET INLET S-I6453 E 2P (E, B, S, V)
6-31x	TA328841	COVER 2P INLET (E, B, S, V)
6-32	EE330688	ANT BAR AT-S330 MW
6-33x	EE330690	ANT BAR AT-S330L LW/MW
6-34	BT330687	⚠ TRANS POWER AT-S330T-70 (U)
6-35x	BT330684	⚠ TRANS POWER AT-S330T-30B (C, A)
6-36x	BT330685	⚠ TRANS POWER AT-S330T-40 (E, V)
6-37x	BT330686	⚠ TRANS POWER AT-S330T-50 (S)
6-38x	BT330982	⚠ TRANS POWER AT-S330LT-40 (E)
6-39x	BT330983	⚠ TRANS POWER AT-S330LT-50 (B)
6-40	ZS313796	ST BID40x06STL CMT
6-41x	BT330852	⚠ TRANS POWER RAT330-40 (E, V)
6-42x	BT330851	⚠ TRANS POWER RAT330-50 (B, S)
6-43x	ZS379405	BID30x06STL CMT
6-44x	ZW609434	N FRANGE 30STL CMT
6-45	SA312465	CIRCULAR FOOT (A) PART CA
6-46x	ZS46309	T2BID40x08STL CMT
6-47x	ZS319460	T2BR30x06STL BZN PROJECTION
6-48	TA202208	BATTERY CASE ASSY AT-S55

REF. NO.	PARTS NO.	DESCRIPTION
6-49x	ZW305013	RV POP32 (A)
6-50x	EW315767	⚠ AC CORD 2 CORES KP-419C/ KS-15 E (E, V)
6-51x	EW322400	⚠ AC CORD 2 CORES GTBS-2F/ KS-15 B (B)
6-52x	EW322401	⚠ AC CORD 2 CORES KP-560/S15 S (S)
6-53x	SP332797	PANEL REAR AT-S330 (V)
6-54x	EJ332210	PLUG CO-AX P2132-A (V)
6-55x	ZS332468	T2BR30x20STL NI3 GUIDE
6-56x	ZW439018	PW30x060x030STL NI3

FINAL ASSEMBLY BLOCK



7. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
	FRONT PANEL BLOCK	
7-1	BDA3012A150A	PANEL FRONT BLK AT-S330
7-2x	BDA3012A150B	PANEL FRONT BLK AT-S330L
7-3x	BZA3012A200A	OIL CLUTCH (R) BLK AT-S330
7-4	SK330752A	KNOB DOOR
7-5x	BZA3012A190A	OIL CLUTCH (L) BLK AT-S330
7-6	SPB330741A	PANEL DOOR AT-S330 PART
7-7x	SPB30741C	PANEL DOOR AT-S330L PART
	LEVER ANGLE BLOCK	
7-8x	TAA3012A180A	LEVER ANGLE BLK AT-S330
	OPERATION BLOCK	
7-9	SK330748A	KNOB PUSH (A)
7-10	SK330748B	KNOB PUSH (A-1) (EXCEPT L)
7-11	SK330750	KNOB PUSH (C)
7-12	SK330749	KNOB PUSH (B)
7-13	SK330746	KNOB TUNING (A)
7-14	SK330747	KNOB TUNING (B)
	FINAL ASSEMBLY BLOCK	
7-15	SK330751	KNOB POWER
7-16	SP330768A	COVER UPPER (A) (EXCEPT A)
7-17x	SP330768B	COVER UPPER (B) (A)
7-18	ZS322570	ST BID40×08STL NI3 (EXCEPT A)
7-19x	ZS322580	ST BID40×08STL BNI (A)

When ordering parts, please quote Parts Number, Description and Model Number.

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1. SCHEMATIC DIAGRAM OF ICs

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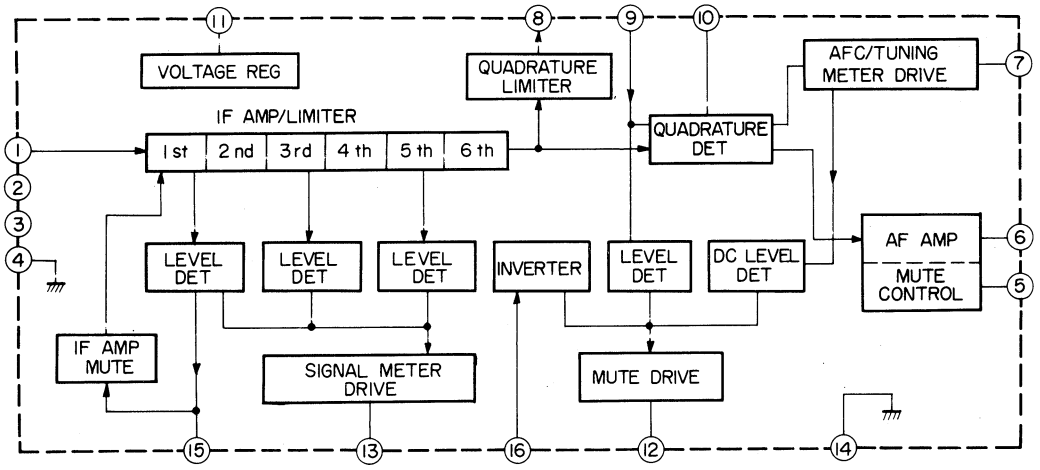

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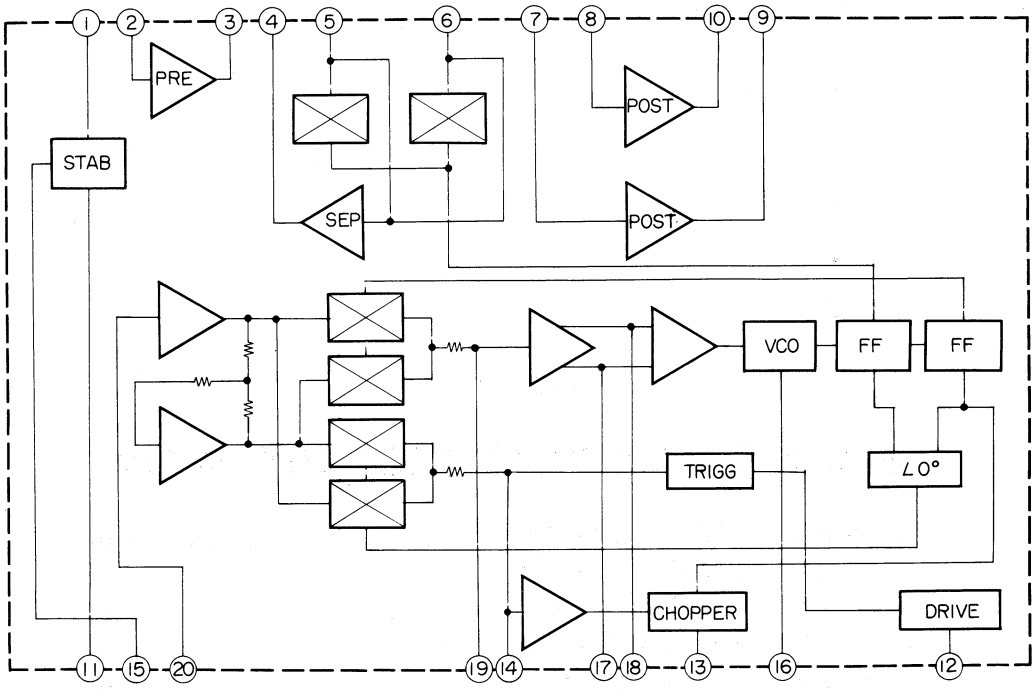

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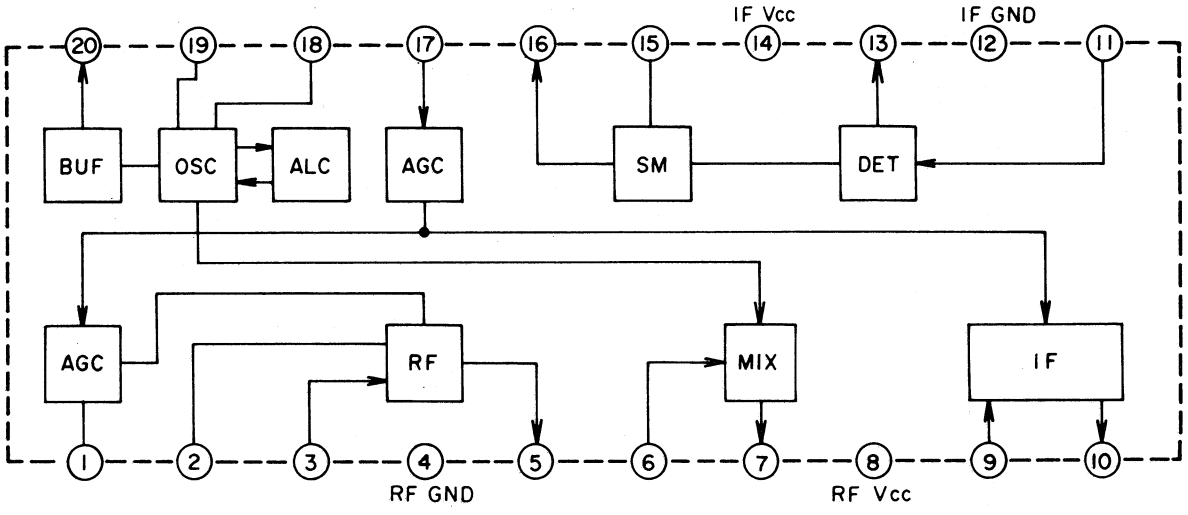

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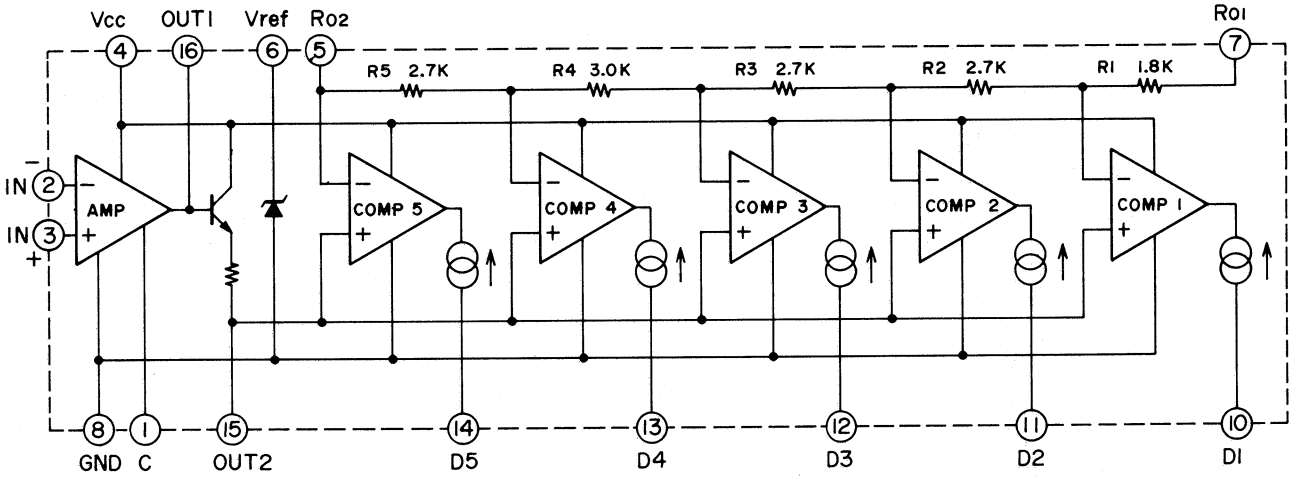

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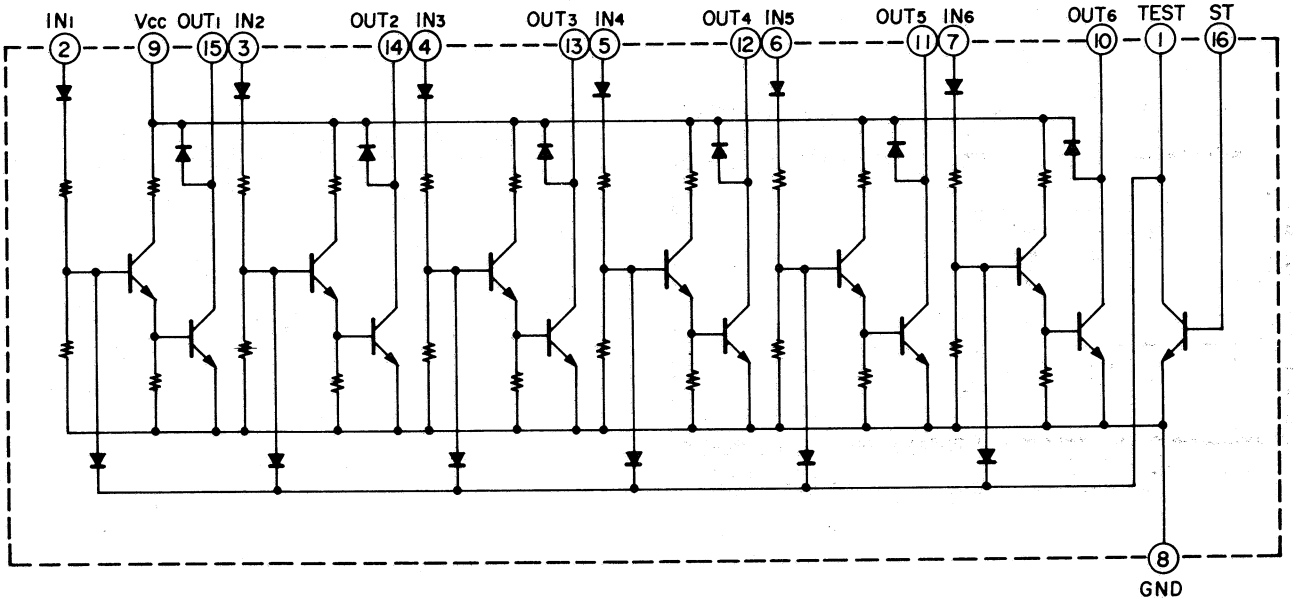

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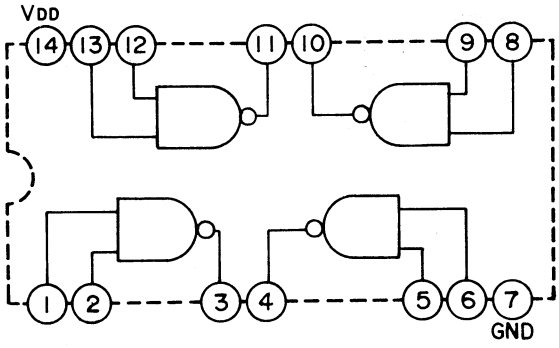

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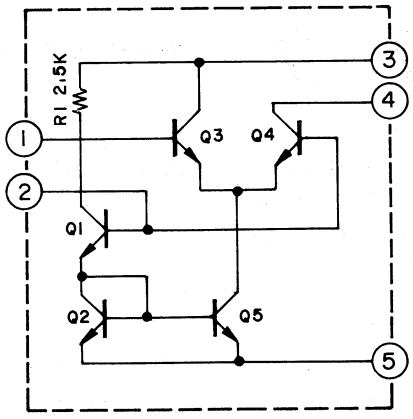

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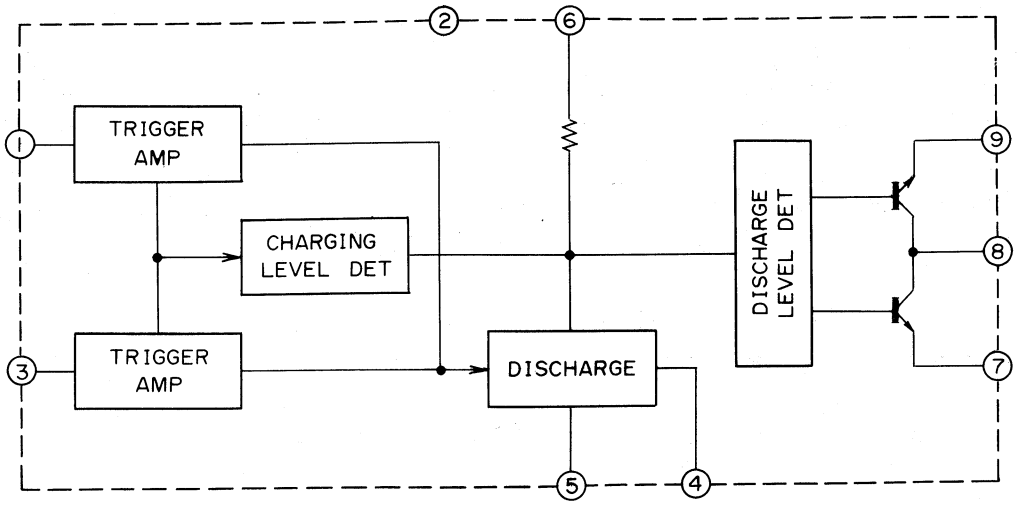

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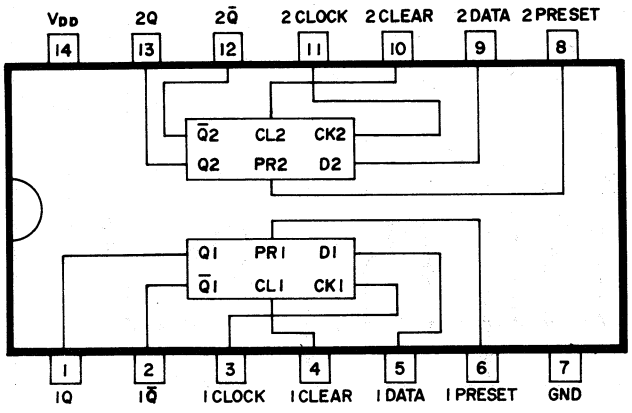

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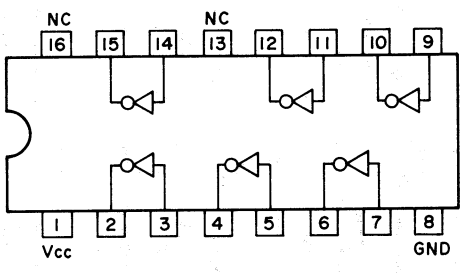

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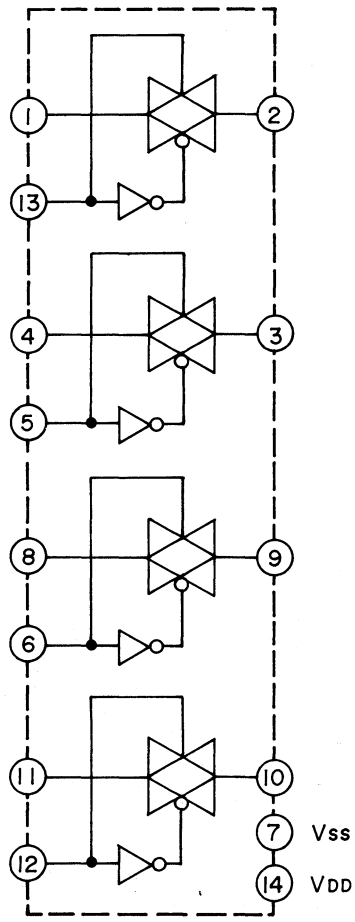

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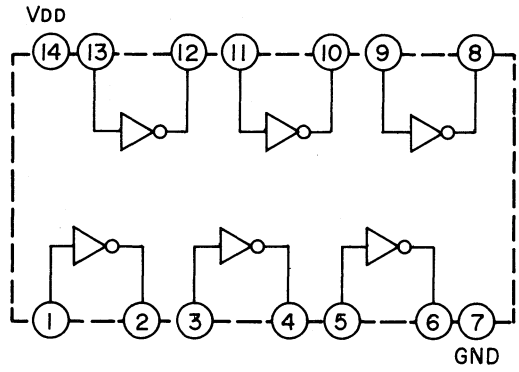

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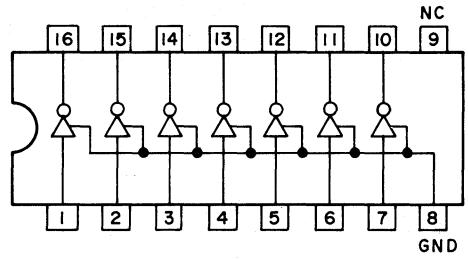

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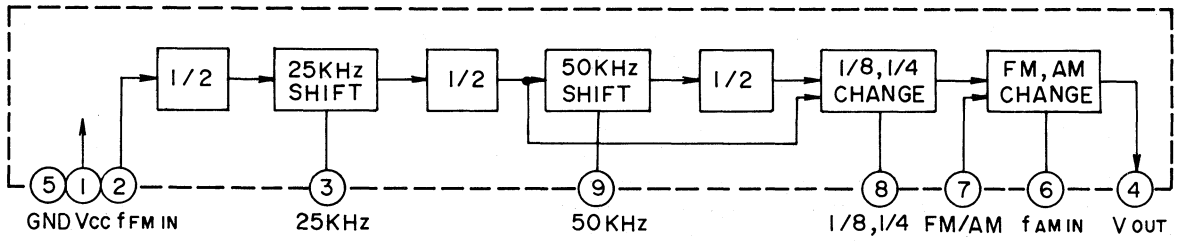

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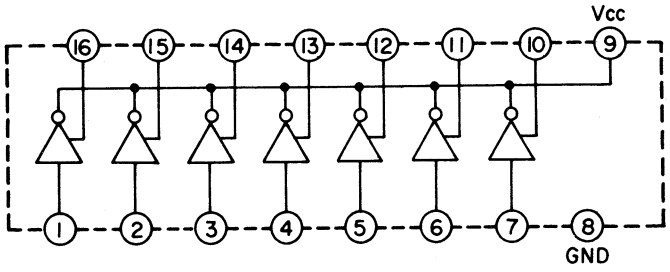

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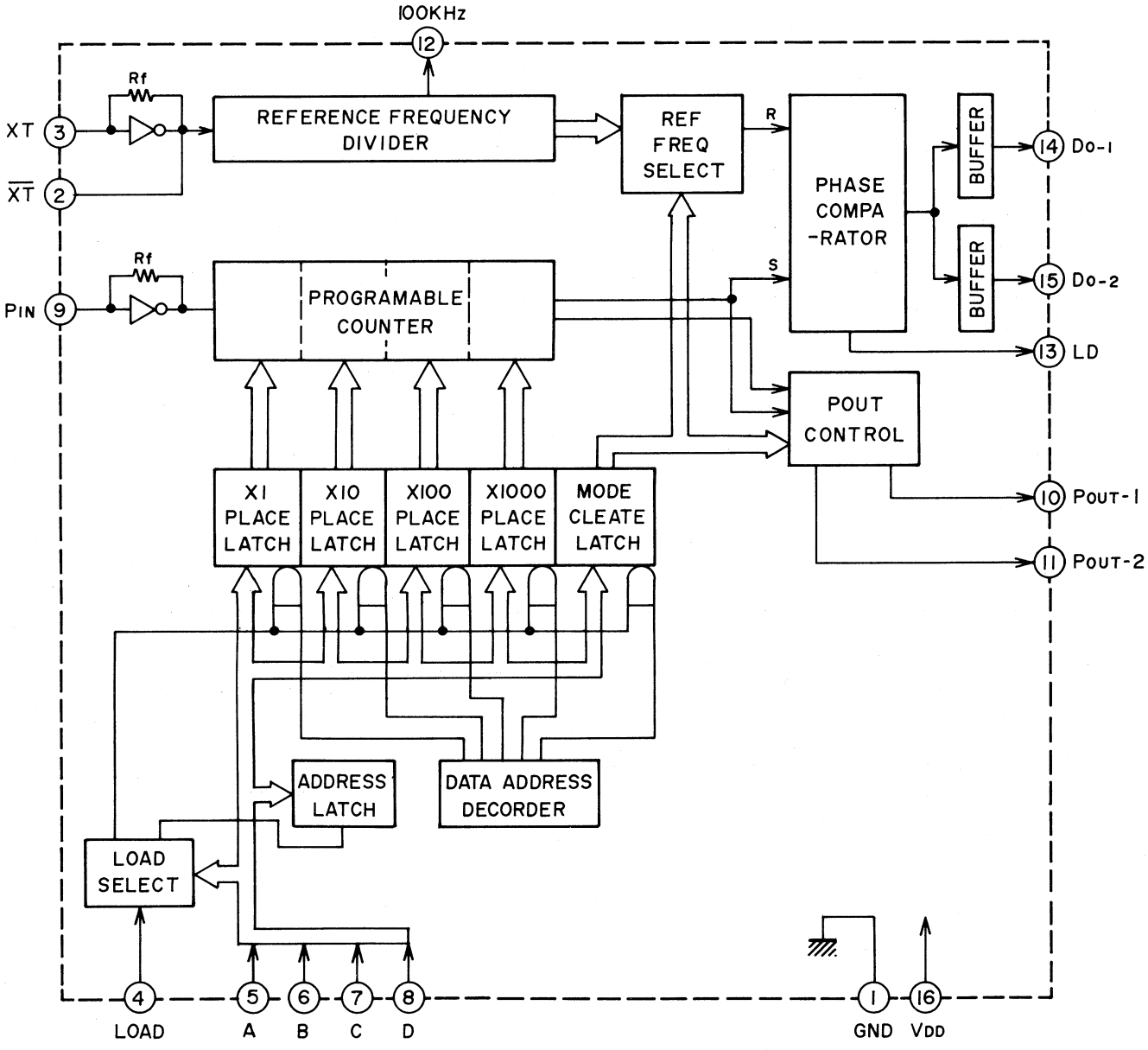
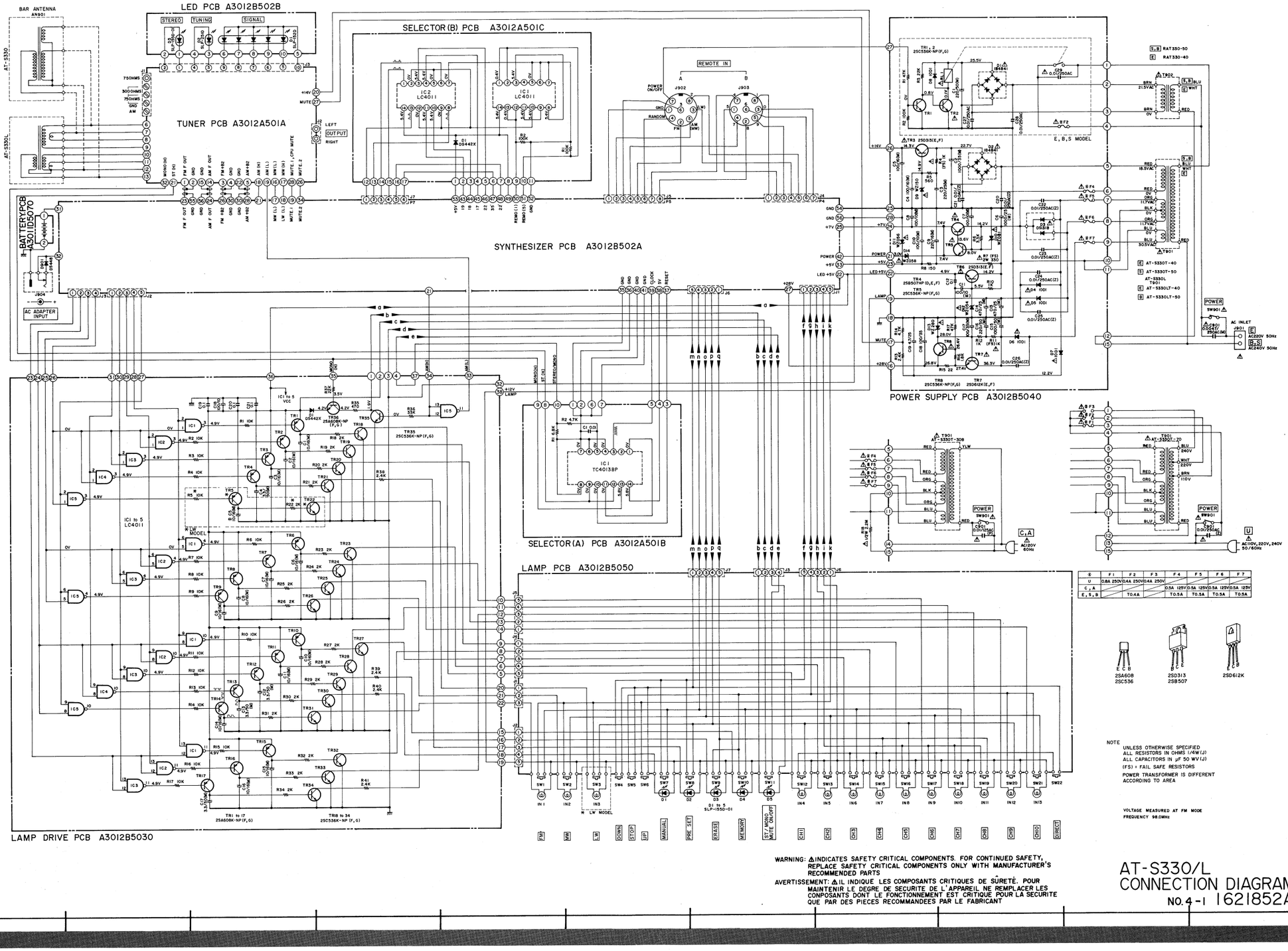


AT-S330/L



⊗	F1	F2	F3	F4	F5	F6	F7
U	0.8A 250V	0.4A 250V	0.4A 250V				
C, A				0.5A 125V	0.5A 125V	0.5A 125V	0.5A 125V
E, S, B		T0.4A		T0.5A	T0.5A	T0.5A	T0.5A

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) : FAIL SAFE RESISTORS
POWER TRANSFORMER IS DIFFERENT ACCORDING TO AREA

VOLTAGE MEASURED AT FM MODE
FREQUENCY 98.0MHz

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

AT-S330/L
CONNECTION DIAGRAM
NO.4-1 1621852A

001225

AT-S330

TUNER PCB A30I2A50IA

※	U,E,B,S	A,C
T4	CFMA-042 459KHz	CFMA-014 460KHz
C34	510P/50WV(J)	750P/50WV(J)
C35	510P/50WV(J)	750P/50WV(J)
RII5	1/4W 56	1/2W 56
RII6	1/4W 56	1/2W 56
RII7	1/4W 22	1/2W 22
R124	1/4W IK	1/2W IK
R125	1/4W 330	1/2W 330

VOLTAGE MEASURED AT FM TUNE
VOLTAGE OF IC6 INDICATES AM TUNE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W (J)
ALL CAPACITORS IN μF 50 WV (J)
(FS) = FAIL SAFE RESISTORS
(-||-) = NON-POLAR CAPACITORS

E C B
2SA608K-NP
2SC536K-NP
2SC930

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS
AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

AT-S330 TUNER SCHEMATIC DIAGRAM

NO.4-2 1621853A

AT-S330/L

AT-S330/L SYNTHESIZER SCHEMATIC DIAGRAM

NO.4-3 1621854A

SYNTHESIZER PCB A3012B502A

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRÉ DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

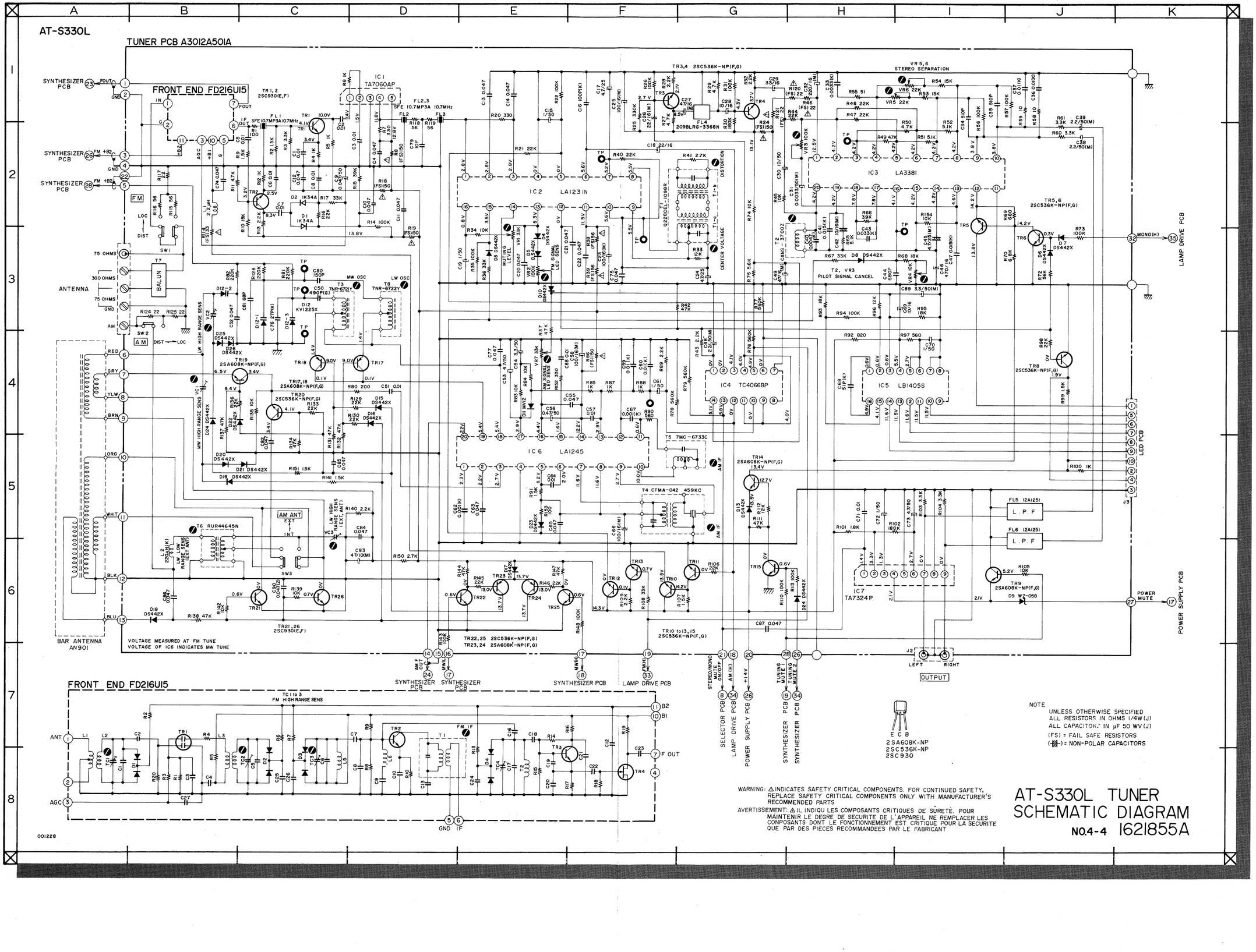
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) = FAIL SAFE RESISTORS

E C B
2SA608
2SC536

S G D
2SK30A

AT-S330L

TUNER PCB A30I2A50IA



E C B
2SA608K-NP
2SC536K-NP
2SC930

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50 WV(J)
(FS) = FAIL SAFE RESISTORS
(⊣⊢) = NON-POLAR CAPACITORS

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

AT-S330L TUNER SCHEMATIC DIAGRAM

NO.4-4 1621855A